Author tshingombe tshitadi

Curriculum assessment:

Title

Strategic Evaluation of Advanced Engineering Systems and Pedagogical Innovation: A Professional Audit of Dr. Tshingombe Fiston Tshitadi

Overview

Dr. Tshitadi's career integrates **electrical engineering**, **security systems**, and **education policy**, with a focus on 4IR readiness, curriculum innovation, and traceable compliance systems that support socio-economic development.

Scope

- **Engineering Systems:** AC/DC theory, transformers, motors, PLCs, SCADA.
- **Security Engineering:** Access control, forensic policing logic, infrastructure integrity.
- **Education Policy:** SAQA/DHET frameworks, NATED pathways, curriculum compliance.
- **Socio-Economic Development:** Parliamentary submissions, rural energy research, youth mentorship.

Abstract

A concise audit of a trajectory from TVET foundations to doctoral systems research. Emphasis on automation, nanotechnology, AI integration, and low-code solutions (VBA UserForms) that enable signal-driven, audit-ready technical education and resilient industrial practice.

Description

- **Academic Path:** NATED N1–N3 (St Peace College) → Master's & Doctorate (Atlantic International University).
- **Technical Competence:** Power systems, motor control, PLC/SCADA, diagnostic engines, DLT for secure records.
- **Research Contributions:** Modular learning signals; autodidactic "Copilote" methodology; innovation & discovery record keeping.
- **Policy Engagement:** Submissions to South African parliamentary portfolio committees on higher education, energy, and rural development.

Keywords

Engineering Systems • Security Integrity • Curriculum Policy • 4IR • PLC • SCADA • VBA • Logigram • Nanotechnology • AI • DLT • Compliance • Audit • Socio-Economic Development

Statement — Delivery Management System

A decentralized ecosystem using **VBA UserForms** and logigram logic to manage: student registration and transcripts; engineering diagnostics and trade readiness simulations; inventory and financial compliance; automated audit sheets and bilingual credential exports.

Information & Communication Skills

- **Technical translation:** Convert engineering detail into policy and compliance language.
- **Academic writing:** Thesis, research papers, portfolios of evidence.
- **Stakeholder engagement:** Parliamentary submissions, institutional correspondence, moderation templates.

Administration & Investigation

- **Administration:** Credential mapping, version control, inventory tracking.
- **Investigation:** Forensic policing logic, CCMA/Labour Court processes, complaint tracking.
- **Governance:** Tender documentation, bid compliance, socio-economic advocacy.

Advantages & Disadvantages

Advantages: modular, audit-ready frameworks; scalable low-code tools; integration of AI and nanotech for resilience. **Disadvantages:** cross-domain complexity; interoperability and standards alignment challenges; need for stronger data governance.

Data Analysis & Visual Basic Logigram

- **Data models:** Complaint → Ruling → Rehabilitation; Credential → Export → Audit.
- **Logigram logic:** Star-Delta motor startup flows, ATM simulation, PLC diagnostics, curriculum signal mapping.
- **Automation:** VBA diagnostic engines, compliance audits, curriculum dashboards and export routines.

Audit Conclusion

The portfolio demonstrates a coherent systems approach linking engineering practice to policy impact. To scale impact, prioritize **standardized schemas**, formal **data governance**, and interoperable interfaces across SAQA/DHET/QCTO and industry partners.

Bibliography (Selected Works)

- *Application Trade Discovery: Job Education Research Methodology, Operational Autodidactic Copilote Distance* (F1000Research, 2025).
- *Career Drawing Total Programming: Analysis, Design, Investigation* (F1000Research, 2025).
- Parliamentary submissions to South African Portfolio Committees (Higher Education, Mineral Resources, Agriculture, 2023).
- Thesis: *Rural Energy, Integrity Science, and Educational Frameworks* (Atlantic International University).

- Technical portfolios: VBA UserForms for diagnostics, compliance, and curriculum management.

I can convert this profile into a polished infographic- style HTML report with interactive charts and a timeline using the thematic percentages and competency matrix already outlined; reply **Yes** to proceed or specify any data points you want included.

Career Education Didactic Report

Author: Tshingombe Tshitadi Theme: Curriculum Assessment in Trade & Engineering Education

🕮 Overview

This report examines the integration of career education materials, award certificates, diplomas, prizes, and innovative didactic systems within trade and engineering education. It emphasizes curriculum assessment, learner evaluation, and audit-ready documentation.

📚 Scope

- Trade and engineering education at advanced levels
- Credentialing systems: certificates, diplomas, prizes
- Didactic materials: quizzes, evaluation rubrics, learner dashboards
- Innovation and invention recognition in wholesaler and technical contexts

📝 Abstract

Career education thrives when didactic rigor, credentialing, and innovation are combined. This report explores curriculum assessment frameworks, management systems, and audit principles to ensure transparent learner recognition and sustainable educational reform.

🎯 Purpose

- To evaluate career education materials and credentialing systems
- To design audit-ready certificates and diplomas
- To integrate innovation and invention into trade wholesaler education
- To establish transparent quiz and mark evaluation systems

🔑 Keywords

Career education, didactic report, award certificate, diploma, prize, innovation, invention, trade engineering, wholesaler, quiz, evaluation, curriculum assessment, audit, management system.

📄 Description

The report describes how career education materials can be structured into audit-ready frameworks, ensuring learners receive visible recognition through certificates, diplomas, and prizes. It highlights innovation in trade engineering and wholesaler systems.

⚠ Problematic

- Lack of standardized credentialing across trade education
- Limited recognition of innovation and invention in curricula
- Inconsistent evaluation methods and mark allocation
- Weak audit systems for compliance and transparency

📝 Statement Report

This report asserts that career education must integrate didactic rigor, credentialing, and innovation recognition to empower learners and align with regulatory frameworks.

📑 Management System Information

- Learner dashboards for progress tracking
- Digital credentialing systems (badges, certificates, transcripts)
- Audit-ready documentation aligned with councils and authorities

🔍 Principle Investigation

- Alignment of curriculum with regulatory standards
- Evaluation of innovation in trade wholesaler education
- Transparency in quiz and mark evaluation systems

Method Research

- Comparative analysis of credentialing frameworks
- Case studies of trade engineering education
- Surveys of learner and educator experiences
- Audit of management systems for compliance

✅ Advantages

- Transparent credentialing and recognition
- Motivation through prizes and innovation awards
- Audit-ready documentation for compliance
- Learner empowerment via gamified dashboards

❌ Disadvantages

- High administrative burden for audit systems
- Risk of over-standardization limiting creativity
- Resource-intensive management systems

🗄️ Management System Information (Expanded)

- Integration of LMS with credentialing dashboards
- Automated quiz banks and evaluation rubrics
- Secure audit trails for certificates and diplomas

📊 Conclusion

Career education in trade and engineering requires a balance of didactic rigor, credentialing, and innovation recognition. Audit-ready systems ensure transparency, while prizes and certificates motivate learners to achieve and invent.

💼 Audit

- Verification of certificate and diploma authenticity
- Compliance with national and international councils
- Continuous monitoring of learner progress and evaluation systems

📚 Bibliographic (Sample References)

- Council on Higher Education (CHE) guidelines
- Engineering Council of South Africa (ECSA) standards
- UNESCO TVET frameworks
- International Journal of Technical Education & Training

This structure gives you a **complete academic-style report** that can be adapted into curriculum assessment documentation, certificate design, or audit frameworks.

Would you like me to **expand this into a polished certificate/diploma template** (with placeholders for learner details, marks, and achievements), or into a **sample quiz bank with evaluation rubrics** to demonstrate the assessment system? Both would make this report more tangible.

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Based on 50 sources

Date/Era	Technology or Event	Key Functionality	Pioneer/Entity	Mathematical/Technical Basis (Inferred)	Source
100,000 BC	Development of human speech	Enabling verbal communication.	Early Humans	Acoustic signal generation and modulation.	[1, 2]
Ancient Times	Invention of the pulley, lever, and wheel	Exploiting mechanical principles for tools.	Ancient Humans	Classical Mechanics and simple machine theory.	[3]
Ancient Times	Antikythera mechanism	Ancient analog computer to predict astronomical positions.	Ancient Greek Engineers	Differential gearing theory.	[3]
1325	Etymology of "Engineered"	Operating or constructing military engines.	Military Constructors	Military engineering and ballistics.	[3]
Renaissance Era	Coining of "Electricity"	Early studies of magnetism and static properties.	William Gilbert	Early electromagnetic theory.	[3]
1800s	Origins of Electrical Engineering	Experimental development of the voltaic pile and electricity.	Alessandro Volta	Electrodynamics and chemical energy conversion (V=Potential Difference).	[1, 3, 4]
1829	Metropolitan Police Service	Professional police service for London.	Sir Robert Peel	Administrative organizational theory.	[5]
1831	Faraday's Law	Principles of electromagnetic induction.	Michael Faraday	Calculus of flux changes ($\epsilon = -N\frac{d\Phi}{dt}$).	[3]
1832	Law Library of Congress	Authoritative legal research and preservation.	Library of Congress	Archival science and taxonomy.	[1, 4]
1850	Multi-bladed farm windmill	Converting wind into energy for storage.	Daniel Halliday	Aerodynamics and mechanical torque conversion.	[6]
1872	Invention of the telephone	Distance transmission using electricity.	Not in source	Analog signal transmission and impedance matching.	[1]
1881	Secondary	Early transformer	Lucien	Electromagnetic	[7]

	Generator	with 1:1 turn ratio for AC transmission.	Gaulard and John Dixon Gibbs	Induction.	
1882	Public Electricity	First use of public streetlights to reduce crime.	City of Kimberley	DC circuit distribution.	[7]
1884	Steam Turbine	Driving generators to increase electricity production.	Sir Charles Parsons (Inferred)	Rankine Cycle.	[7]
1885	Practical series AC transformer	Stepping down voltage (500V to 100V) for commercial use.	William Stanley, Jr.	Transformer Turns Ratio and Faraday's Law.	[7]
1888	AC Induction Motor	Polyphase current motors for industrial applications.	Nikola Tesla and Galileo Ferraris	Rotating Magnetic Field Theory.	[7]
19th Century	Rise of Electronics field	Foundation for vacuum tube and transistor development.	James Maxwell and Heinrich Hertz	Maxwell's Equations and electromagnetic wave theory.	[1, 3, 4]
1895 (Inferred)	Transatlantic Radio	Wireless signal propagation over long distances.	Marconi	Radio Frequency (RF) fundamentals.	[2]
1901	Neptune Bank Power Station	Largest integrated power system in Europe.	Charles Merz	Integrated Grid Synchrony.	[7]
1901	Mercury vapor lamps	Illumination using mercury vapor discharge.	Peter Cooper Hewitt	Gas discharge and atomic emission spectra.	[6]
1902	Mercury-Arc Rectifiers	Converting AC to DC for high-voltage industrial use.	Peter Cooper Hewitt	Ionized Mercury Vapor Conductivity.	[6-8]
1923	ESCOM (Eskom)	Nationalized electricity utility in South Africa.	Hendrik Johannes van der Bijl	Utility Scale Power Systems.	[7]
1960s	Electronics maker movement	Community-based electronics design and sharing.	Elektor (implied)	Solid-state circuit theory.	[6]
1972	Digital Sensor Monitoring	Precursor to smart meters using digital	Theodore Paraskevakos	Digital Signal Processing.	[7]

		transmission.			
1974	Elektor Web Archive	Digital preservation of telecommunications history.	Elektor	Digital archiving and information retrieval.	[6]
1979	First Commercial 1G Network	First active commercial analog cellular network (Tokyo).	Japan	Analogue frequency modulation and cellular topology.	[9, 10]
1980s	1G Analog Telephony	Analog voice services for cellular mobility.	Global frontrunners	Frequency Division Multiple Access (FDMA).	[9-12]
1980s	State-Space Representation	Modeling behavior of transmission lines and linear systems.	Control Engineers / Rudolf Kalman	Telegrapher's Equations, Matrix algebra, and 2x2 Transmission Matrices ($\dot{x}=Ax+Bu$).	[1-3, 7, 9, 10, 13-18]
1989	Technology Acceptance Model	Evaluation of user acceptance of information systems.	Davis	Statistical modeling and behavioral intention theory.	[13]
1991	2G Network (GSM/CDMA)	First digital mobile network; encrypted transfer; SMS/MMS.	Radiolinja (Finland)	Time Division Multiple Access (TDMA) and Digital Signal Processing.	[9-12]
1992	IBM Simon Personal Communicator	First smartphone prototype; combined telephony and PDA.	IBM / BellSouth	Integrated Mobile OS, touchscreen interface, and microprocessor logic.	[2, 9-12, 15, 16]
1992	TVET Certification Backlog	Delayed processing of NATED and NCV qualifications.	DHET / Umalusi / SITA	Administrative database management.	[19]
1994	Power System Stability	Analysis of stability in interconnected power systems.	Prabha Kundur	Nonlinear differential equations and swing equations.	[13]
1996	Nokia Communicator	Mobile business computing with QWERTY keyboard and email.	Nokia	GEOS 3.0, Intel 386/RISC architecture, and GSM standards.	[9-12, 15, 16]
1998	Domestic Violence Act	Legal framework for protection	South African Parliament	Legislative framework for civil protection.	[20]

		orders in South Africa.			
1990s	Growth of E-commerce / Internet	Online commercial transactions and digital marketplaces.	Policy makers / Global	TCP/IP protocols and Information theory.	[4, 21]
2000	Smartphone (Term coined)	Naming campaign to increase device popularity.	Ericsson	Consumer marketing strategy.	[9, 10]
2001	3G Network (UMTS)	High-speed mobile data and packet-switched transmission.	NTT Docomo	Code Division Multiple Access (CDMA).	[9-12]
2002	AdvancedTCA (PICMG 3.x)	Carrier-grade modular hardware for telecom and military.	PICMG Standards Body	Parallel and point-to-point backplane serial interconnect theory.	[9-11, 13, 14, 16, 22]
2007	iPhone Launch	Mainstream smartphone internet and touch interface.	Apple	Multi-touch software and mobile OS optimization.	[9, 10]
2007	Microsoft Office 2007	Document creation and database structuring.	Microsoft	Relational database architecture.	[23]
2009	4G (LTE)	High-speed mobile broadband and IP-based architecture.	Global operators	Orthogonal Frequency Division Multiplexing (OFDM).	[2, 9-12]
2011	Logic Circuits Introduction	Introduction to gates and flip-flops via boards.	Microchip Technology	Boolean algebra and binary state switching.	[8]
2013-2023	EcoStruxure Automation Expert	Software-defined industrial automation and control.	Schneider Electric	Distributed control systems and IEC 61499.	[16, 24]
2018	Day One Recruitment	IT-integrated assessment for police candidates.	Met Police	Digital assessment methodology.	[5]
2019	5G (NR)	Ultra-low latency, massive IoT, and beamforming.	3GPP	Millimeter wave technology and Massive MIMO.	[2, 11, 12, 25]
2020	Automatic Generation Control	Adjusting generators in response to grid load.	Grid Operators	Steady-state frequency-power relation and PID control.	[7]

2020	Transformation Roadmap	Digital service from contact to court; 30,000 devices.	Met Police	Information management systems.	[5]
2021	Smart Power Meter Design	Measurement of active/reactive energy in 4-wire networks.	NXP Semiconductors	Sigma-Delta ADCs and 64-bit metering algorithms.	[26]
2022	B2B E-commerce Dataset	Tracking user interactions in the power industry.	Beijing Huadian	Collaborative filtering and behavior matrices.	[4, 21]
2022	Cyber Essentials Certification	Verified cybersecurity standard for organizations.	The IASME Consortium	Cybersecurity framework and audit controls.	[5]
2023	eConversion Mode	High-efficiency 3-phase UPS mode (99% efficiency).	Schneider Electric	Continuous Inverter Operation and Harmonic Compensation.	[7]
2024	AI Skills Challenge	Building apps with Azure OpenAI and Copilot.	Microsoft	Large Language Models (LLMs).	[8]
2024	Project Management System	Tracking cost and resource metrics via calculus.	T. Tshitadi Fiston	Integral and Derivative calculus ($T=\int ti \; di$).	[23]
2025	RSA Certificate Validation	Secure authentication and digital signature validation.	Sectigo CA / Tshingombe	Public Key Infrastructure (PKI) and RSA 2048-bit.	[23]
2025	Doctoral Engineering Thesis	Engineering sustainability and career modeling.	T. Tshitadi Fiston / AIU	Qualitative coding and system optimization.	[23]
Modern Era	Laplace Transforms	Analysis of linear systems in the frequency domain.	Pierre-Simon Laplace	Integral transforms ($G(s)=\int f(t)e^{-st}dt$).	[1, 3, 9, 12-15, 26]
Modern Era	Calculus Applications	Rate of change and system dynamics analysis.	Engineering Science	Integral and differential calculus ($\frac{dN}{dt}$, $\int V dt$).	[1, 13, 15, 17, 23, 25]
Modern Era	Shannon-Hartley Theorem	Maximum information transmission rate in noisy channels.	Claude Shannon	Logarithmic capacity models and SNR analysis.	[2, 27]
Modern Era	Programmable Logic Controllers	Industrial automation and sequence control.	Modicon / Schneider	Boolean logic and ladder diagrams.	[15, 24]

Modern Era	Advanced Cloud Systems	Large-scale hosting and real-time analytics.	Microsoft (Azure)	Distributed systems and Kusto Query Language (KQL).	[2]
Modern Era	UPS Efficiency Analysis	Efficiency metrics (93% Matrix vs 80% Ferro Resonant).	Power Engineering	Power factor analysis and system optimization.	[17]

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[26] AN13338-1.pdf

Based on 50 sources

Topic	Organization	Description	Category	Qualification/ Level	Duration/ Date	Cost/Value	Source

N Diploma Engineering Studies	DHET / SAQA / SITA / Umalusi	Academic route through N1 to N6 levels focusing on engineering logic and practical workplace experience. Includes Electrical Engineering qualifications with experiential training.	Engineering	NQF Level 6 (360 credits)	3 years (18 months theory, 18 months practical)	Not in source	[1-5]
Energy-Efficient Electrical & Industrial Systems (S.E.E.E.I.S. U.A)	Tshingombe Engineering / South Union Africa	Strategic proposal for unified energy regulation, industrial metering, and infrastructure overhaul including substation demolition.	Engineering	Doctoral-level design	2023-2025 research phase	R50 billion (Budget Forecast)	[6]
Advanced Metering Infrastructure (AMI) Project	Madinda Utilities	Rollout of tamper-proof electronic hardware and distribution satellite warehouses nationwide.	Engineering	Not in source	Not in source	R600 million (Investment)	[6]
Chief Engineer (Electrical)	South African Police Service (SAPS)	Manage all electrical aspects of construction projects, brief consultants, design, documentation, and compile	Engineering	NQF Level 6 / Professional Engineer (ECSA)	Closing Date: 2019-05-10	R796,965 per annum	[2, 7]

		specifications.					
AI Fluency Program	Sci-Bono ICT Academy (in partnership with Microsoft)	A program designed to gain essential AI skills including AI Foundations, Generative AI, and Responsible AI through 44 bite-sized videos.	ICT / Artificial Intelligence	6 AI Certifications (Recognized by Microsoft)	5 hours total duration	Free	[8, 9]
Engineering electrical n4,5,6 assessment police /implementation work	St Peace College / Africa Institute Police	Application for funding for Person with Disability RFP Phase 1 involving assessment and implementation work.	Engineering	N4, N5, N6	Expected Start: 2023/01/02	Budget not exceeding R40,000,000.00	[10]
Standard Bidding Document (SBD 9) / Certificate of Bid Determination	National Treasury / South African Government	Certificate of Independent Bid Determination to prevent collusive bidding and ensure reasonable steps are taken to prevent bid-rigging.	Legal Compliance / Procurement	Not in source	2023/09/12	R1,000,000 (Total Bid Price)	[11]
Snr Engineer Prof Electrical Vacancy	Duvha Power Station (Eskom)	Specialist engineering service to Generation power stations involving technical and financial	Engineering	BSc/BEng at NQF8 (480 credits)	Closing Date: 5/31/2024	Task Grade: P16	[12]

		evaluations and lifecycle plans.					
Electrician (Shift Worker)	City Power (SOC) Ltd	Vacancy for daily maintenance, repair, and installation of electrical systems and equipment at all voltage levels.	Engineering	N2 Electrical Engineering & Electrical Trade Test Certificate	Closing Date: 21 September 2022	R350,966 (Task Grade 9)	[13, 14]
License Project - Engineering Trade	Schneider Electric / Tshingombe Engineering	Schneider Electrical License granted for engineering trade application, theory, and practical implementation.	Engineering	License	Modified: 24/08/2025	Project-25: R400 547,09	[6]
Engineering Science Unit / Assignment	Scottish Qualifications Authority (SQA)	Added Value Unit for developing engineering solutions involving mechanisms, electronic control systems, and structures.	Engineering	National 4 (SCQF Level 4)	2 September 2018	6 SCQF credit points	[2, 7]
Evaluation of Foreign Qualifications	South African Qualifications Authority (SAQA)	Process for recognizing and evaluating foreign qualifications against the South African NQF under the NQF Act	Legal Compliance / Educational Assessment	NQF Act 67 of 2008	Amended March 2017	R450.00 (Standard Priority)	[2, 9]

		67 of 2008.					
Security Guard Vacancy	Eskom (Arnot Power Station)	Physical security duties to protect Eskom's assets and interest. Requires National Key Point level.	Security	Grade 12 / PSIRA Grade C	Closing Date: 5/8/2014	Task Grade: T05	[2, 7]
National Certificate N1-N3: Engineering Studies (Electrician)	St. Peace College / DHET	Course contents include Mathematics, Electrotechnics, Logic Systems, and Industrial Electronics. Includes N3 Statement of Results.	Engineering	N1-N3	Two-year course with two-year in-service training	Not in source	[7, 15, 16]
Mining Qualifications Authority (MQA) Overview	Department of Mineral Resources (DMR)	Promote skills development in the mining and minerals sector including artisan development and learnerships.	Mining / Engineering	NQF Levels 4-10	Varies by level (1 to 8+ years)	Financed via Bursaries and Grants	[8]
Sarb Graduate Development Programme	South African Reserve Bank (SARB)	Programme for graduates in data science, statistics, and applied mathematics to develop analytics in central banking.	ICT / Finance	Postgraduate (Bachelor Honors/Masters)	6 month probation	ZA 22k per month (base salary)	[17]
IEC 62368-1:2023	International	Special offer for purchase	ICT / Engineeri	Masterclass	Sep 20, 2024	CHF 578.40	[18]

Academy Masterclass	Electrotechnical Commission (IEC)	of IEC 62368-1:2023 RLV standard following masterclass registration.	ng				
Product Database Setup (Phase 1)	Sci-Bono Academy / Financial Services	Scope includes process costs, database configuration, supplier onboarding, and technical setup of servers and workstations.	Technical Operations / IT Setup	Not in source	Start Date: February 2025	R110,000 (Total itemized cost)	[8]
A-Lab Application ID 14	SABS EMC Department	Order for ALABFULLTERM laboratory application services.	Engineering	Not in source	Sep 14, 2024	R120,000.00	[18]
Corporate Gift Cards Enquiry	Shoprite Money Market	Enquiry and quotation for bulk corporate gift cards.	Commercial	Not in source	Oct 18, 2022	R100,000.00 to R1,000.00	[18]
Electrical Trade Theory N1	Department of Higher Education and Training	Syllabus covering safety, circuits, resistivity, magnetism, batteries, and alternating current.	Engineering	N1	12 Weeks (Trimester)	310 Marks total	[7]
Transcription Project JR 2461/15	Labour Court Johannesburg	Transcription of court proceedings for a labor dispute between Tshitadi Fiston Tshingombe	Legal Compliance	Case No: JR 2461/15	Completed 2017-04-2018	750 Rand	[19]

		and Nogada SA Security.					
College Stationery Requirements	Cornerstone College	List of required books and materials for secondary school subjects.	ICT / Business / Arts	Grade 8 to Grade 12	2021	R35 to R360 (per item)	[19]
Programme Research Development Support	Department of Science and Innovation (DSI)	Socio-economic development programme focused on technology innovation and research support.	Science and Technology	National Diploma in Engineering	2023	Innovation tax incentives	[20]
Engineering Career Discovery / Experiential	St Peace College / Career Center	Portfolio career research, experimental student outcome exhibition, and journey from grade school to senior job levels.	Technical Career Discovery	National Diploma / Grade School to Job Level	2023	Not in source	[9, 12]
Occupational Exposure Level Survey	South African Police Service (SAPS)	Approval of service for an Approved Inspection Authority (AIA) to perform exposure level surveys for Detective and Forensic Services.	Legal Compliance / Safety	AIA Approved	3 Years	Not in source	[12]
Certification Backlog Reduction	DHET / SITA / Umalusi	Project aimed at eliminating the backlog of	Educational Assessme	NATED N4-N6 / NC(V) L2	Projected 80% reduction	Not in source	[12]

Project		issued certificates for TVET, CET, and Private Colleges.	nt		by 30 June 2020		
Nanotechnology Poster Assessment	St Peace College (Inferred)	Project for learners to design gas sensors for mines using nanotechnology concepts.	ICT / Science	Grade 12 / N6	Not in source	10 marks (Total Score)	[12]
Professional Liability Insurance Requirement	City Power / St Peace College	Requirement for bidders to provide professional liability insurance for each and every insurance method research.	Legal Compliance	Bidder criteria	Not in source	R3m	[12]
Complaint regarding Private Security Sector Provident Fund	Office of the Pension Funds Adjudicator (OPFA)	Case closure letter regarding a complaint involving SALT Employee Benefits and Nogada Security.	Security	Not in source	27 August 2025	Free service	[21]
Technical Matric N3 Registration / Extension	Ekurhuleni Tech College	Final extension for registration for Technical Matric subjects (Business English and Sake Afrikaans).	Educational Assessment	N3 / Grade 12	Deadline: June 25, 2020	Not in source	[2, 7]
CCTV Installation	St Peace College &	Training course	Security / ICT	Vocational Skills /	Registration January	Not in source	[2, 7]

Training	Afric Policing Institute	covering basic CCTV systems, cameras, monitors, digital recorders, and trade test preparation.		Technical	2019		
National Diploma in Policing	St Peace College / Africa Policing Institute	Vocational course for detectives focusing on criminal investigation, administration, and practical training.	Security	NQF Level 6	Registration May 2018 / Jan 2019	Not in source	[2, 7, 19]
Engineering Studies N1 - N6	TVET College / DHET	National Technical Education (NATED) programs covering Electrical, Mechanical, Civil Building, and IT.	Engineering	N1 to N6	Ongoing	Not in source	[19]
General Standard for Parts and Materials	Department of Defense (DoD)	MIL-STD-11991B: Standard practice for management of parts, materials, and processes during military production.	Engineering / Defense	Military Standard	3 October 2023	Not in source	[22]
Manager ICT Security Vacancy	City Power Johannesburg	Role to create security measures safeguarding information	Security / ICT	National Diploma (NQF Level 6)	Closing Date: 30 May 2024	Not in source	[23]

		and manage mitigation processes.					
Complaint Affidavit - Sheriffs Act	South African Board for Sheriffs	Official complaint regarding alleged improper conduct involving security and safety issues.	Legal Compliance	Section 44(1) Sheriffs Act	09 October 2023	Not in source	[24, 25]
SASSETA Skills Programmes	SASSETA	Security services training including Access Control Officer, Risk Management, and Specialist Security Practices.	Security	PSIRA Grade C / B / A	Not in source	Book: R100.00	[8]
Work Integrated Learning Programme	DHET	Participation in research assessment and irregularity investigations in national examinations (NATED N4-N6).	Education / Engineering	NATED N1-N6	20 Feb 2022 to 20 Apr 2024	Not in source	[23]
Maximize Profitability and Operations Efficiency	Schneider Electric	Training course completion and evaluation request.	Engineering / Business	Training course	Sep 20, 2024	Not in source	[18]
Assessor Registration	ETDP SETA	Application for new, extension of scope, or re-registration as a constituent	Educational Assessment	Assessor / Moderator	May 15, 2022	Not in source	[13]

		Assessor or Moderator.					
SAPS Radio Technical Unit (TMS 36/2019)	South African Police Service (SAPS)	Vacancy for repairs, installation, and maintenance of radio equipment and infrastructure at High Sites.	Security / ICT	NQF 6 (Electrical) / N3 Technical	2019	Not in source	[12-14]
Law Enforcement Officer Accountability	NYU Policing Project	Webinar for obtaining New York Continuing Legal Education (CLE) credit regarding officer accountability.	Legal Compliance / Security	CLE Credit	Sep 24, 2024	Not in source	[18]
Digital Literacy Expert	Sci-Bono / Certiport	Module training from basic to advanced Microsoft Office (Word, Excel, Access, PowerPoint) for specialists.	ICT	Specialist / Expert	5-day	Not in source	[9]
Electrical Trade Theory N2	Future Managers / DHET	Course to equip students with theoretical knowledge for electrical apprenticeship or power utility environment.	Engineering	N2 / NQF Level 3	One trimester	Not in source	[11]
Project Pitch:	Engineering	Technical project pitch	Engineering /	Master level skill	4/10/2025	Not in source	[26]

Energy Technologies	Tshingombe / NSF	for small business innovation research in energy technologies.	Energy				
Microsoft Certified: Azure AI Engineer	Microsoft	Certification for building and deploying AI solutions leveraging Azure AI services.	ICT	Intermediate	12 months renewal	Not in source	[6]
Security Service Provider Registration	PSIRA	Mandatory credentialing process validating competence and criminal clearance for security officers.	Security	Grades A–E	Criminal check (10 years)	Not in source	[6]
Operation GENIAC	Kananga5 / Brigade 119	Multidisciplinary initiative integrating military combat engineering, safety automation, and credential validation.	Engineering	NQF Level 5	2025 - Active	Not in source	[6]
MIL-STD for Engineering Drawings	Department of Defense (DoD)	MIL-STD-100G: Standard practice for the preparation and identification of engineering drawings for military applications.	Engineering	Military Standard	9 June 1997	Not in source	[27]
Learnerships	National	Demonstratio	Agricultu	NQF Level 1	Not in	R200.00	[10]

- Animal Production	Skills Fund (NSF)	n budget item for training in animal production including credits and stipends.	re		source	per credit	
Special Complaint Form	PSSPF	Form for arrear contributions and benefit statements within the security sector.	Security	Supervisor / Manager	2025	Not in source	[28]
Electrical Sub-Contractor Rates	Not in source	Unit prices for electrical installation tasks (DB board fitting, ripple relay installation).	Engineering	Skilled / Semi-skilled	Not in source	R859 to R9,500	[12]
Registration Fees	St Peace College / Africa Police Institute	Receipt for registration and deposit from student Tshingombe Fiston.	Educational Assessment	Not in source	Not in source	R1200	[7]
Discovery Sci-Bono Career Center	Sci-Bono Discovery Centre	Career interest assessment and journey of self-discovery from grade school to technical education.	Education / Career	Grade 1–13	Not in source	Not in source	[3, 26]
Birthday Parties Planetarium Package	Sci-Bono Discovery Centre	Package including planetarium and secret lab access.	Education / Entertainment	Not in source	Not in source	R2200 - R2500	[3]
Protection of Personal Information	Not in source	Training on the POPI Act No. 4 of 2013	Legal Compliance	Not in source	Not in source	Not in source	[9]

Act	and its effects on business processing of information.

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[5] engineering electrical tshingombe.docx
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[26] research fund science ,, skill research ,, .tshingombe note methode.docx
[27] ADA361444.pdf

Based on 50 sources

Entity Name	Registration/ID Number	Qualification/Course	NQF Level	Module or Subject	Financial Value/Uni	Status/Outcome	Source

		Title	l	Content	t Price		
Tshingombe Engineering	0123456788 (Invoice) / INV-0014 / INV-0022 / INV-0031 / QU-0002	Engineering and Technical Training Services (Xero Invoices)	Not in source	Engineering science, power machines, control logic, motor vehicle, energy, metallurgy, geotechnical, civil construction, database code, and cybersecurity	R15,315,266,556.65 (Combined Total)	Draft / Approved / Overdue / Expired	[1, 2]
Tshingombe Engineering	0011111111 / 001111111	Industrial / Technology and Human Resource Programme (THRIP)	Not in source	Engineering electrical implementation trade; 2x work benches, implementation framework circuit, and assessment policy	R2,020,000,000.00	Referred back and cancelled	[2-5]
S.E.E.E.I.S.U.A Project	MIL-STD-1394	Energy-Efficient Electrical & Industrial Systems Support	Not in source	Calibration protocols for kWh, kVA, kVAR; Substation remanufacture	R50,000,000,000.00 (Budget Forecast)	Proposed Unified Framework	[6]
Shingomebe	Not in source	Engineering Manufacturer Control Logic and Electromagnetic Load	Not in source	Specific engineering services; Manufacturer control logic engineerin	3,709,000,000.00 Rand	Draft Invoice	[7]

				g fund cyst; Electromagnetic AC/DC Load			
Tshingombe Tshitadi Fiston	21000000202812 / 2100002023812 / SAQA ID 90674	National N Diploma: Engineering Studies (Electrical Engineering)	6	Industrial Electronics, Engineering Drawings, Electrical Trade Theory, Mathematics, Electro-technology, Engineering Science, and Plant Operation Theory	Not in source	Under Investigation (Alleged examination irregularity)	[1, 4, 5, 8]
SAQA (South African Qualifications Authority)	2023/434	Senior Manager: Information and Communication Technology (ICT)	NQF Level 7 / 9	ICT Strategy, ICT governance, Business transformation project, Network access and backup systems	R1,162,200 – R1,365,411 Per Annum	Application Submitted	[2]
SAQA (South African Qualifications Authority)	20191130002	Evaluation of Foreign Qualifications (DRC)	Not in source	Evaluation of credentials and requirements from DR Congo awarding institutions	R5,000.00	Outstanding Documents / Under Review	[8, 9]
SAQA	Not in source	Legal	Not	Matter 1:	R215,701,	Legal	[10]

(South African Qualifications Authority)		Matters: Patrimonial Loss and Institutional Compliance	in source	Patrimonial loss claim (R203,701,234); Matter 2: Failure to inspect institution (R12,000,000)	234.00	Proceeding / Joint Claim	
City Power Johannesburg	2000/030051/30	Assessment of Existing Electricians Trade Test Panels	Not in source	Trade test modular panels for electricians; technical functionality evaluation	R1,000,000.00 (Total Bid Price)	Tendered / Pending	[1]
SAPS (South African Police Service)	SCM193/2019	Chief Engineer (Electrical)	6	Design, documentation and inspection of construction projects; Compiling specifications for SAPS	R796,965.00 per annum	Post advertised	[HEAD OFFICE, 2777]
Atlantic International University	114110D1 / 9137954440 / MCID: 99587175	Masters in Electrical Engineering / Postgraduate Diploma in Educational Technology	8 / 9 (Inferred)	Engineering Analysis, Control Systems, Systems Optimization, Systems Testing, Reliability, and Emerging Technologies in Education	150.00 USD (Enrollment Fee)	Acceptance and placement offer set	[3, 4, 11]
Departm	016000 / RFQ	Supply and	Not	RDX 320	R550,000.	Under	[3-5]

ent of Health (NDOH)	(20022/ndih-0809)	Deliver RDX 320 Vacuum Autoclaves	in source	vacuum autoclaves, class B; inlet 2×1/2 in; outlet 2/1/2 in; size 23 inch	00	Review (Tendered)	
St. Peace College	2019/FE07/028 / 899993812	Engineering Electrical N4, N5, N6	N4 / Lev 5	Assessment policy, implementation work, curriculum policy, and electrical portfolio	R500,000.00	Under Review	[1, 8]
St. Peace College	SASSETA 111999691949	National Diploma in Resolving of Crime	6	Criminal Investigation Principles, Administration, and Communication Skills	R1,200.00	Approved	[9, 12]
Tshingombe CCMA Labour	LV5090	Levies Collective Agreements Compliance	Not in source	Clause 5.1 and 5.2 levies contributions; clause 7.1 interest (March 2020 to July 2024)	R87,163.71	Compliance Order Issued	[3, 4]
National Bargaining Council for Private Security Sector	LR 2/6/6/164	Statutory Violation Main Collective Agreements	Not in source	Labour Relation Act 1995 Section 29 (15)(a)	R20,000.00 (Fine)	Under Review	[3]
Shalom Technical College	210002023812 / 899993812	National N Diploma Engineering Studies	NQF Level 6	Industrial Electronics N3, Electrical	Not in source	Invalidated subject / Pipeline	[1, 3, 5]

		(Electrical)		Trade Theory N3, Engineering Science N3, Electro-technology N3		Failure	
Tshingombe Tshitadi Engineering	2013/034490/07	R&D Tax Incentive Project: Engineering Electrical	Not in source	Research and development in electrical engineering, technology innovation, and socio-economic development	Tax Ref: 9722328238	Authorised / Notification of changes	[4, 5]
Tshingombe Tshitadi	TIRCO000910610 / ORCID 0009-0005-2690-9559	Doctorate / Thesis: Master Doctoral Engineering Electrical	Not in source	Personalized research program; Implementation and framework national qualification and trade examination curriculum	150.00 USD (Enrollment Fee)	Pending / Rejected (F1000Research)	[13]
Tshingombe Tshitadi Fiston	2011007434332 / National Examination IDs	National Certificate N1-N6 Engineering Studies	6	Mathematics, Electrotechnics, Logic Systems, Industrial Electronics, Engineering Science	Not in source	Irregularity / Evaluation In Progress	[9, 12]
Scottish Qualific	C243 74	National 4 Skills for	SCQF	Mechanical (J16F 74),	Not in source	Approved / Valid	[14, 15]

ations Authority (SQA)		Work Engineering Skills	Level 4	Electrical/ Electronic (J16G 74), Fabrication, Manufacture and Assembly		from August 2013	
Eskom (Arnot Power Station)	329-1631109IS	Security Guard Security x 6	T05 (Task Grade)	Physical security, access control, patrol duties, and emergency preparedness	Not in source	Closed	[9, 12]
Metropolitan Police Service (London)	SCM193/2019 / MIP-165-25-0100-000	Chief Engineer (Electrical) / IP Licence	6	Project management, construction projects design; Request to use trademark	R796,965.00 per annum	Technical Problem / Failed	[12, 16]
Tshingombe Tshitadi Fiston	SAQA 20191130002	Master in Modern Power and Energy Systems	Not in source	Advanced Electromagnetic Theory, Digital Signal Processing, Control Systems Design, Renewable Energy Systems	1,000.00 USD	Under Review	[9, 16]
Academy of Training and Development	NATED/15/0417	Electrical Engineering N4–N6	Level 4-6	NATED Technical Education; Civil and Business Manageme	Not in source	Accredited (2015—2020)	[10, 17]

				nt			
SABS Commercial SOC Ltd	40-5322-5013	A-Lab Application ID 14	Not in source	ALABFULLTERM SKU; Technical engineering assessment	R120,000.00	Grand Total (Incl. Tax)	[18]
Tshitadi Fiston Tshingombe	JR 2461/15	Labour Court Review: Tshingombe vs Nogada Security Services	Not in source	Review of CCMA rescission ruling; Unfair dismissal claim; Transcript of proceedings	R750.00 (Estimate)	Review Dismissed	[4, 6, 14]
Tshingombe Engineering	Not in source	Projects 2, 3, 6, 10, 11, 12, 17, 25	Not in source	Engineering trade application (theory + practical); design, analysis, and investigation	R1,342,935.68 (Aggregated)	Completed / Open	[19, 20]
Tshingombe Tshitadi	Not in source	Eaton University Training Modules	Not in source	8D Problem Solving, Arc Flash Hazards, Power Press PPE, HR Functional Skills, Low-Voltage Switchgear	Not in source	Completed / In Progress	[20, 21]
Kananga 5 (GitHub	67712c5b5cca6e751a8d54dcb9496f858218fec7	Engineering experimental magazine /	Not in sourc	Engineering release structure,	Not in source	Build Succeeded / Failed	[7, 10, 17]

Repo)		Career Discovery	e	UserForms, milestone tracking, and CI/CD pipelines		Import	
Tshingombe Tshitadi	Not in source	Masters in Artificial General Intelligence and Social Sciences	Not in source	Introduction to AGI, Human Cognition, Ethical Considerations, Public Policy, and Social Impact	Not in source	Not in source	[3]
Beijing Huadian E-commerce	Not in source	B2B E-commerce sector dataset analysis	Not in source	346,672 products catalog; User behaviors: order, browsing, and bidding data	Not in source	Not in source	[3]
Department of Higher Education and Training	Not in source	National N Diploma Pathway	Level 6	Work from N1 to N6 culminations; 360 credits; 24 months work experience requirement	Not in source	Certification backlog identified	[22, 23]

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Based on 20 sources

Qualification ID/SAQA ID	Qualification Title/Unit Standard	NQF Level	Credits	Subject/Module	Technical Content/ Tasks	Equipment/ Material Requirements	Institution/Provider	Source
90674	National N Diploma: Engineering Studies (Electrical Engineering)	Level 6	360	Electrical Trade Theory, Industrial Electronics, Electrotechnics, Power Machines, Engineering Science, Mathematics	Fault finding, repair, and maintenance of three-phase systems; analysis of AC/DC machines and transformers; wiring of	Multimeter, resistor, inductor, soldering tools, circuit boards, Manuals, Schematics, Transformers, Schneider Electric (MCCBs), De Lorenzo (Didactic Labs), Eaton, DSPACE	DHET / SAQA / St Peace College / QCTO	[1], [2], [3], [4], [5, 6], [7], [8]

					premises; install/maintain low voltage distribution boards; apply lubricants and packing to assemblies; obtaining circuit diagrams; tuning test functionality. Includes practical work experience (18-24 months).	Test Benches, Lab-Volt.		
111285	National Diploma in Electrical Engineering	Level 6	360	Electrotechnology, Electrical Trade Theory, Mathematical Foundations, Power Machines, Control Systems, Installation Rules	Circuit analysis, material configuration, use of instruments for diagnostics, soldering, maintaining electrical systems, replacing faulty components. Includes calculus applications for	Soldering tools, measuring instruments, voltmeters, ammeters, oscilloscopes, cable trays, De Lorenzo labs, Schneider EcoStruxure, Eaton UPS.	SAQA / Technical Colleges / UNISA / DHET	[3], [9], [10]

					analyzing circuits and power systems.			
90674	Advanced Electrical Engineering Curriculum	Level 6	360	Advanced Electromagnetic Theory, DSP, Control Systems Design, Renewable Energy Systems	Analysis of RLC circuits, DC/AC machines, network theorems (Kirchhoff's Laws), and Maxwell's equations.	Lab-Volt / DSPACE (Inferred), MATLAB/Simulink	DHET / QCTO	[4]
66881	National Certificate in Electrical Engineering	Level 4	Not in source	Mathematics, Industrial Electronics, Engineering Science, Electrotechnics	Post-matric programme; provides qualification for installation electrician (three-phase).	Not in source	TVET Colleges / Oxbridge Academy / DHET	[1]
63889	Further Education and Training Certificate: Electrical Engineering	NQF Level 04	130	Not in source	Plan, prepare, install, test, connect, commission, maintain, alter and repair electrical equipment.	Not in source	SAQA	[11]
72051	National Certificate: Electrical	Level 3	133	Electrical Installation	Wiring standards, DC theory,	Electrical Wiring Kit, multimeter	SAQA / NIMI	[4]

	Engineering				and magnetism applied to industrial infrastructure.			
72071	National Certificate: Electrical Engineering (Mining Specialization)	Level 3	141	Unit Standard 259037: Design and install electrical wire ways	Install, test and maintain electrical equipment in a hazardous location; repair defects on explosion prevention apparatus; design and install electrical wire ways.	Explosion prevention apparatus, hand tools	MQA / DHET / SAQA	[4], [12], [13], [8]
63790	National Certificate: Electrical Engineering	Level 3	133	Unit Standard 258963; Unit Standard 113924	Install, test and maintain electrical equipment in a hazardous location; install and commission DC and AC machines and control gear.	Not in source	SAQA	[13]
67491	National Certificate: Engineeri	Level 3 / N3	Not in source	Mathematics, Industrial Electronics, Engineerin	Industry practices and administr	De Lorenzo (DL) Didactic Platforms;	TVET colleges / DHET / St Peace	[1], [2], [6], [10]

	ng Studies (N3)			g Science, Electrical Trade Theory or Electro-technology, Industrial Orientation	ative procedures; AC/DC machinery; Transformers principles of operation, testing, and maintenance.	SCADA-WEB monitoring	College / Oxbridge Academy	, [7]
67375	National Certificate: Engineering Studies (N2)	Level 2 / N2	Not in source	Mathematics, Industrial Electronics, Engineering Science, Electrical Trade Theory	Working with electrical circuits; builds on N1 knowledge; switchgear and protective devices; isolating; control devices.	Didactic Panels, hands-on training equipment	TVET colleges / DHET / St Peace College / Oxbridge Academy	[1], [2], [6], [10], [7]
258937	Unit Standard: Install, maintain low voltage distribution boards, protection and earthing	Level 2/3	Not in source	Electrical Infrastructure and Construction	Maintenance of distribution boards (DB) and protection systems; installation of wire ways (racks, trunking, conduit); termination using glands, ferrules,	Low-voltage distribution boards; earthing devices; circuit breakers	SAQA / St Peace College	[2], [6], [10], [7]

					and lugs; electrical safety cleaning.			
67109	National Certificate: Engineering Studies (N1)	Level 1 / N1	Not in source	Mathematics, Industrial Electronics, Engineering Science, Electrical Trade Theory	Basic principles of electrical engineering; research, design, install and test electrical and electronic equipment; resistive, inductive, capacitive, and mixed circuits using Kirchhoff's and Ohm's Laws.	Electrician hand tools (BIS standards), workshop practice materials (filing, drilling, riveting)	TVET colleges / DHET / St Peace College / Oxbridge Academy	[1], [2], [6], [10], [7]
259077	Install and commission direct-on-line AC rotating machines and control gear	NQF Level 03	10	Core Unit Standard	Installation and commissioning of AC machines.	AC rotating machines, control gear	SAQA	[11]
259078	Install and commission electrical metering units,	NQF Level 02	8	Core Unit Standard	Installation and commissioning of metering units.	Electrical measuring and testing instruments	SAQA	[11]

	measuring instruments and control devices							
10259	Unit Standard: Fault find, repair and maintenance of three-phase electrical systems	Not in source	Not in source	Electrical Engineering	Troubleshooting and repairing faults in circuit breakers; testing tripping characteristics; maintenance of electric motors and control panels.	Multimeters, current multipliers for relay operations, Murray and Varley Loop Tests	SAQA	[2], [6], [10]
263006	Unit Standard: Demonstrating an understanding of wiring of premises	Not in source	Not in source	Electrical Trade	Wiring of distribution boards, motor controls, and isolators to SABS 0142 standards.	Wiring premise lab test characteristics workshop	SAQA	[6], [10]
116466	Unit Standard: Inspection and testing of electrical circuits	Not in source	Not in source	Electrical Engineering	Executing continuity tests; earth conductor resistance tests; and compliance checks.	Tesla meter, Hall sensor, high-current power supply, multimeter, oscilloscope	SAQA	[6], [10]
115753 / 7978	Generic Assessor Unit	Not in source	Not in sourc	Assessor Training	Plan and conduct assessmen	Assessment plan, guide, tools and	ETDP SETA	[1], [2]

	Standard		e		ts; assess candidates against relevant unit standards; judge evidence; provide constructive feedback.	reporting format		
GP6D 47	SQA Advanced Certificate in Electrical Engineering	SCQF Level 7	96 SCQF points	Three Phase Induction Motors; Power Electronics; PLCs	Inspection and testing of low voltage installations, PLC programming, handling electrical systems in hazardous environments.	Micro-controller systems, PCs, standard measuring instruments.	SQA (Scottish Qualifications Authority)	[9]
RNCP41007BC01	BTS Électrotechnique (Brevet de Technicien Supérieur)	Level 5	Not in source	Preliminary study and design of an installation	Étude et conception préliminaire d'une installation électrique.	Not in source	French Higher Education	[12], [13], [8]
Not in source	Power Electronics and Electric Machines Laboratory	Not in source	2 credit hours	EEC 470	Steady state analysis of Electric Machines and transformers; real-time control; AC/DC	Modular Lab-Volt equipment, Power-pole board, DSPACE, Tektronix oscilloscopes.	Cleveland State University	[1], [7]

					Rectifiers, DC/DC Choppers, DC/AC Inverters.			
Not in source	SQA Advanced Diploma in Electrical Engineering	SCQF Level 8	30 unit credits	Synchronous Machines; Switchgear and Protection; CAD	Advanced study on power generation machines, protection mechanism design, and CAD-integrated installation layouts.	CAD tools, PC, laser printers, scanners.	SQA (Scottish Qualifications Authority)	[9]
Not in source	Master of Engineering Systems / Masters of Electrical Engineering	Level 9	Not in source	Power Systems Engineering	Generation, transmission, and distribution; load flow analysis; stability and protection; smart grids and IoT applications.	MATLAB, Simulink, Lab-Volt test benches, DSPACE, Online Virtual Campus.	Atlantic International University (AIU)	[14], [15]
ID 78780	Doctorate in Electrical Engineering	Level 10	240	Advanced Electromagnetic Theory; Specialist Infrastructure	Maxwell's equations, antenna design, microwave engineering, advanced power system analysis,	Simulation software, Cadence, Synopsys.	CPUT / AIU	[4], [14]

					and smart grids.			
Not in source	Electrician 4th Semester (NSQF Level 5)	Level 5	Not in source	Electronic Practice; Control Panel Wiring; AC/DC Motor Drives; Inverter and UPS	Component testing (Diodes, SCR); Control cabinet layout; Star-delta starters; Speed control using thyristors; UPS maintenance.	Multimeter, DIN rail, MCB, DC drive, Oscilloscope, Variac, Lead acid battery.	NIMI	[11]
Not in source	Skills Programme: Panel Wiring / Electronics Installer	Level 2 / Not in source	Not in source	Infrastructure, Building, and Security	Cabling, jointing, busbar safety, DB box installation, motor control, radio transmitter and antenna installation.	Panel portable equipment, hand tools, crimping tools, electronic components.	QCTO / CHIETA / SASSETA / PSIRA	[1], [4, 16], [14]
Not in source	Industrial Electronics N4-N6	Not in source	Not in source	Control Systems and Transducers	Analysis of RLC circuits, power dissipation, signal processing using Fourier and Laplace transforms, fault diagnosis	Lab-Volt, Oscilloscopes, DSPACE.	DHET NATED	[3]

					with calculus.			
Not in source	Modicon PLC Configuration	Level 6 (Inferred)	Not in source	Industrial Automation and Control	Programming and integration of PLCs for process machine control and variable speed drives.	Modicon M340, EcoStruxure Power, motor starters, variable speed drives.	Schneider Electric	[4]
Not in source	TeSys T Motor Management System	Not in source	Not in source	LTMR Motor Management Controller	Installing and commissioning LTMR controller; wiring current transformers and logic I/Os; 4-20mA loop current testing.	TeSys T LTMR controller, LTME expansion module, SoMove software.	Schneider Electric	[3], [4]
Not in source	Training Program in Smart Grid Solutions and Power Management	Not in source	Not in source	Smart Grids, IoT, Renewable Energy	Predictive load management and SCADA-WEB monitoring.	DL OPENLAB-SA-AI, DSPACE Test Benches	Schneider Electric / Eaton	[10]
Not in source	UniTrain-I: DC, AC and Three-phase Technology	Not in source	Not in source	Fundamentals of Power Engineering	Measurements with multimeter, magnetism,	UniTrain-I Multimedia system, USB Interface, test cards.	Lucas-Nülle	[1], [4]

					transformers; fault simulation in building automation.			
Not in source	Diploma in Electrical Studies / Advanced Diploma in Circuit Analysis	Beginner / Advanced	10-20 hours	Circuit Analysis; Trade Practice	Bending conduits, installing device boxes, interpreting drawings; unknown resistance evaluation; electric shock prevention.	Technical drawings, electrical test equipment.	Alison (CPD UK Accredited)	[3], [9]
Not in source	ZE3301 High Performance Basic Electrotechnics	Not in source	Not in source	Fundamental Theory	Ohm's Law; Kirchhoff's Law; Thevenin and Norton theorem verification; RC circuit response; Power factor measurement.	Digital instruments, Unitary circuit boards, Locking connectors.	Not in source	[2]
Not in source	Electrical Machines and Energy Conversion	Junior/Senior	Not in source	Electrical Machines	Faraday's Law demonstration; 3 Phase Power measurement;	Lab-Volt, DSPACE, Oscilloscope, Multimeter, Wattmeter.	California State University Northridge	[2]

					Transformers open/short circuit tests; DC Shunt motor speed control.			
Not in source	Substation Automation - Network Architecture	Not in source	Not in source	Transmission Substations	Network architecture for control rooms; protection IEDs; gateway configuration; time synchronization (NTP).	Substation gateways, RTUs, GPS receivers, Ethernet switches.	Eskom	[3]
Not in source	Schneider Home Certification	Not in source	3 NAB CEP CEU	Home Energy Management	Installing and wiring Schneider Inverter, Boost, and Pulse Backup Controller; commissioning with eSetup App.	Schneider Inverter, Boost, Square D Relays, eSetup App.	Schneider Electric	[3]
Not in source	Electrician (Shift Worker / Daily Maintenance)	Not in source	Not in source	N2 Electrical Engineering / Distribution	Daily maintenance, repair and installation; fault diagnosis; scheduled plant	Electrical test equipment, instruments, tools of the trade.	City Power Johannesburg	[1], [7]

					inspection; repair LV and MV networks.			
Not in source	Masters in Supply Chain Management / Electrochemical Engineering	Level 9 / 8	Not in source	Software Engineering / Battery Tech	Traceability systems using Blockchain and IoT; automating electrochemical process controls; battery manufacturing.	Blockchain software, IoT sensors, RFID, Robotic Process Automation (RPA) tools.	Atlantic International University	[6, 17]
ID 63375	National Certificate: Advanced Phase Teach	Not in source	Not in source	Education Technology	Didactic framework quality assessment; curriculum mapping.	Visual Basic automation suite	SAQA / Sci-Bono / DHET	[4, 16]
Not in source	National Technical Certificate level 3 (N3)	NQF 3	Not in source	Electrical Engineering light current	Repairs, installation and maintenance of radio equipment.	Communication Monitor, Signal Generator, Oscilloscope	SAPS Radio Technical Unit	[7]
Not in source	Diploma in Robotics / Mechatronics	Not in source	Not in source	Cognitive Robotics; Mechatronic Systems	Integrating mechanical systems with electronics; signal conditioning; analog-to-	Arduino, Raspberry Pi, PLC, SCADA, sensors.	Alison	[10]

					digital conversion.			

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[16] Proposal of thesis content 2 final research(4).docx
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Based on 20 sources

Organization or Institution	Candidate or Personnel Name	Qualification or Course Title	ID or Registration Number	Item or Service Description	Technical Specifications	Estimated Cost or Budget	Operational Status or Requirement	Source
Department of Trade, Industry and Competition (dtic)	Tshingombe Tshitadi Fiston	Master's degree qualification in Electrical Engineering	Ref: 1579995 / 2013/034490/07	THRIP Proposal for framework circuit college and technology invoice reconciliation	B2B e-commerce for electric power; AI-powered product recommendations; 2x work benches	ZAR 20,200,000.00	Registered on invoice portal for tenders; THRIP claim referred back and cancelled (2023-12-01)	[1, 2]
City Power Johannesburg	Tshingombe Tshitadi Fiston	Electrician (Shift Worker)	Vacancy Reference 001	Personnel Recruitment and Electrical system maintenance	Task Grade 9; Requires Electrical Trade Test Certificate and N2	ZAR 350,966.00	Candidate application for trainee/internship role; Requires 3 years	[3-5]

					Electrical Engineering		experience and valid Code C1 driver's license	
National Skills Fund (NSF)	Tshingombe Tshitadi Fiston	Engineering Electrical N4-N6	Not in source	Project funding application for learnerships and skills programmes	NQF Level 5; Assessment policy implementation	ZAR 40,000,000.00	Budget allocation for vocational training and skills development	[5]
Madinda Utilities	Not in source	Not in source	Not in source	Advanced Metering Infrastructure (AMI) Rollout	DLMS/COSEM-compliant hardware; localized manufacturing (2 plants)	126,000,000.00 USD	National rollout across 186 municipalities for revenue protection	[6]
National Science Foundation (NSF)	Tshingombe Tshitadi Fiston	NSF CAREER Proposal	Pitch #00110596	Project funding for Power Management research and rural electrification	Renewable energy; solar home systems (SHS); small-scale hydropower; CAREER Program guidelines	4,000,750.00 USD	5 year duration; aim to provide electricity to 10,000 households; Proposal pending review audit	[6, 7]
Shoprite	Not in source	Electrical Subcontractor Service	INV-0047 / INV-0004	Supply and installation of electrical appliances and infrastructure; Engineering consulting services	Fit electrical appliances for house/industrial; 200 units; 5 units at ZAR 20,000.00 each	ZAR 67,830,078.00	Awaiting payment (due 2023-08-11); Billed to mmsale@shoprite.co.za	[3, 8]
St Peace	Tshingombe	National N Diploma:	SAQA ID 90674 /	National N Diploma	NQF Level 6;	ZAR 11,000.0	Under investigation	[1, 3, 4, 6,

College / DHET / SAQA	Tshitadi Fiston	Electrical Engineering (N1-N6)	2100002023812	curriculum, foundational engineering studies, and practical experience	360 Credits; includes N1-N6 subjects and 18-24 months practical experience	0 per level	for examination irregularities (Nov 2023); graduation and transcript issuance pending	8, 9]
DHET	Not in source	Deputy Director: Teacher Education Data and Review	DHET50/05/2023	Professional Staffing/Employment	NQF Level 7	ZAR 958,824.00	All-inclusive Remuneration Package	[10]
DHET	Not in source	Assistant Director: Monitoring and Evaluation	DHET78/05/2023	Professional Staffing/Employment	NQF Level 6	ZAR 527,298.00	Salary Level 10	[10]
Atlantic International University (AIU)	Tshingombe Tshitadi Fiston	Master of Science in Electrical Engineering	MBM302 / IJETR3156	Masters degree enrollment and Thesis Review	Advanced electrical stability; NQF Level 9 equivalent; Distance Learning	ZAR 32,750.00 (Combined fees and estimated costs)	Accepted; Portfolio artifact submitted to LMS and AIU Library; Registration fee due 2025-01-31	[1, 6, 9, 11-14]
Department of Health (NDoH)	Not in source	Not in source	RFQ 2022/ndoh-0809	Supply and delivery of RDX 320 vacuum autoclaves	Model: RDX 14 L Class B; 23 inch; Flow: inlet 2x1/2 in, outlet 2/1/2 in; Part #016000	ZAR 550,000.00	Urgent supply; Official order required for commencement; includes warranty	[2, 7, 13]
Schneider Electric	Tshingombe Tshitadi Fiston	Automation & Energy Certifications	607069d9-fa26-423a-9d8c-d10df173a87	Industrial Automation and Home Energy Management Training	EcoStruxure Expert; Covers Inverters, Boost, Pulse	ZAR 0.00	Linked to PoE; 14.15 hours aggregate training; Requires 80%	[8, 9]

					Backup; Mapped to NQF 5		passing score	
Schneider Electric	Tshingombe Tshitadi Fiston	Not in source	Project-22 / Project-25	EcoStruxure Control Expert License and Variable Speed Drive	Node locked (10 users); Altivar Process ATV930 160kW; 380-480V; IP20	ZAR 581,008.16	Open Bill of Materials (BOM) items	[9]
Eskom	Tshingombe Tshitadi Fiston	Research Proposal	Not in source	Supply of Electricity to Rural Households in Africa (Project Proposal)	50-watt Solar Home Systems (SHS); 0.3-0.4 kWh/day	ZAR 4,000,000.00	Awaiting funding/review; alignment with Integrated Energy Plan	[2]
SAQA	Tshingombe Tshitadi Fiston	Foreign Qualification Evaluation	Application ID: 201911130002	Evaluation of credentials from DRC (ISPT Kinshasa / UNIKIN)	Verification against SA NQF standards; Computer Science and Preparatory certificates	ZAR 200.00	Active status; requires certified transcripts and document re-uploads due to technical issues	[3, 15]
Sci-Bono ICT Academy	Tshingombe Tshitadi Fiston	Project Management Implementation	Ref: 00095759	Phase 1 product database implementation	Workflow management across 14 departments	ZAR 21,000.00	Managed procurement processes; RFQs (R10,000.00)	[8]
City Power Johannesburg	Not in source	Not in source	SAP 3551 / 3562	Portable Earthing Equipment and Gear	Nominal voltages 400V to 33 kV; High Voltage 6.6 to 132 kV; 6m long	Not in source	Used for earthing or short circuiting for panels and three-phase devices	[11, 12, Annexure D]
City	Not in	Energy	Not in	Smart Meter	240 VAC	ZAR	Record	[6]

Power Johannesburg	source	Efficiency Compliance	source	Installation – Industrial Zone 3	(±20%); 0-60A range; 10 kWh energy limit	2,370.00	submitted to municipal audit portal; Audit readiness	
Eskom	Not in source	Not in source	2002/15527/30	Electricity generation, transmission, and distribution services	13.8kV Primary/4.16kV Secondary; 3750kVA; 3200 kVA Peak Capacity	ZAR 15,459.00 per connection	Compliance with SANS 10142 and IEC 60364	[6, 7]
SAQA	Tshingombe Tshitadi Fiston	SCQF Level 6 Award	Not in source	International Benchmark Award	Articulation Pathway	ZAR 3,000.00	International Benchmark Status confirmed	[8]
IJETR / Engineering Research	Tshingombe Tshitadi Fiston	Research Publication	ORCID: 0009-0005-2690-9559 / IJETR3147	Journal Publication in Advanced Engineering Systems	Volume 12, Issue 3, 2023; ISO 9001:2008 Certified Journal	ZAR 500.00	Manuscript Accepted for publication; Invoice pending	[8, 12]
SABS	Tshingombe Tshitadi Fiston	A-Lab Application	ID 14	ALABFULLTERM Service	EMC Department Order #4000000618	ZAR 120,000.00	Order placed on Sep 14, 2024	[16]
Microsoft	Tshingombe Tshitadi Fiston	Azure AI Fundamentals	MCID 99587175	Professional Certification in Data & AI	Cloud & Data Engineering	ZAR 1,000.00	Linked to GitHub Repo; 4IR Skills	[8]
City Power Johannesburg	Not in source	Not in source	R0169241870	Supply and delivery of computer equipment	Detailed in bid proposal	ZAR 1,000,000.00	Closing date 2023-09-12	[5]
Eskom Expo for Young	Tshingombe Tshitadi	Curriculum & Policy Assessment Research	Not in source	Engineering electrical assessment curriculum	Objective: Curriculum & Policy	ZAR 100,000.00	Formal research plan developed	[8]

Scientists	Fiston			policy research	Assessment			
National Skills Fund (NSF)	Tshingombe Tshitadi Fiston	Rural Electrification Project	Not in source	Supply, delivery, and installation of equipment	50-watt Solar Home Systems (SHS); Plasma dynamic generators	ZAR 550,000.00	Proposal declined due to eligibility requirements	[1]
SASSETA / CCMA	Tshingombe Tshitadi Fiston	Workplace Dispute Resolution	Not in source	Labour Law Training	MERSETA + Home Affairs compliance log	ZAR 800.00	Dispute resolution under Section 18(3)	[1]
ECSA / Home Affairs	Tshingombe Tshitadi Fiston	Registered Professional Engineer	Not in source	Engineer Registration	CPD activities compliance	ZAR 1,000.00	CCMA + Master Court archive	[1]
City Power Johannesburg	Not in source	Not in source	Not in source	Distribution board installation and ripple relay fitting	3 Phase installation; Geyser ripple relay fitting	ZAR 10,359.00	Sub-contractor unit rates	[4]
GitHub / Azure DevOps	Tshingombe Tshitadi Fiston	Trailblazer Superbadge - Data Cloud	Not in source	CI/CD Pipeline Subscription	GitLab audit log; CI/CD pipeline	ZAR 60.00	Verifiable technical achievement	[1]
DHET	Tshingombe Tshitadi Fiston	National Certificate: Electrical Engineering N1-N3	ID: 2004007064381	Academic record and transcript evaluation	Nated N1-N3; Foundational math and science	Not in source	Record of achievement and performance tracking in TVET system	[3]
Cleveland State University	Ke Chen, Ana Stankovic	Power Electronics and Electric Machines Laboratory	NSF Award # 0410912	Lab equipment procurement	MATLAB - SIMULINK interface; MOSFET and diode reconfigur	Not in source	Replaced line-fed sets with seven modern test benches	[3]

					able boards			
SQA (Scottish Qualifications Authority)	Not in source	Advanced Certificate/ Diploma in Electrical Engineering	GP6D 47	Advanced certificate and diploma programs	SCQF Level 7 and 8; 3-phase induction motors; High Level Engineering Software	Not in source	Prerequisite: Engineering Mathematics 3; Level 7 certificate required for Diploma	[17]
Alison Learning	Tshingombe Tshitadi	Electrical Engineering - Transformer Components	Alison ID: 37876299	Online technical certification	Covers Buchholz relay and oil level measurement	Free	85% complete; Ongoing learning	[17]
National Instructional Media Institute (NIMI)	Not in source	Electrician - Trade Practical	Not in source	Training Module and Step-down transformer	NSQF Level 5; Transformer 240V/12-0-12V, 500mA	Not in source	4th Semester Requirement; Exercise 4.1.163	[10]

[1] new 4career engineering4.pdf
[2] 359173_Proposal of thesis content 2 final research(2).docx
[3] 795797_Prospect student alu research 2 assessement thesisi experimental ,,.docx
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[16] experimental2 career thesis tlantic office pc lab(4).docx

Based on 50 sources

ID	Title	Module or Component	Description/Keywords	Category	Author/Assigned To	Status or Outcome	Source
JGU5FH	Web-Based Crime Management System for Samara City Main Police Station	Online Application / Client-Server Architecture	Crime record management, reporting, computerized records, Samara town police station, Information Systems	Justice	Demelash Lemmi Ettisa, Minota Milkias	Dec 11, 2023 - Research Article	[1-4]
Not in source	Information Management System (IMS): Modular Framework	Kfrm1-Kfrm6	Secure registration, biometric validation, user credential handling, Visual Basic (VB) architecture, name, surname, ID, cellphone	Computer Science	Tshingombe Tshitadi Fiston	Prototype Architecture	[1, 5]
1165	IT Asset Management Administrator	BSTD	Compliance automation + asset lifecycle tracking	Computer Science	Tshingombe	Active	[1]
904	Applications Design Lead	BSTD	Modular systems architecture; VBA frameworks	Computer Science	Tshingombe	Active	[1]
1208	Associate Resolution Planning Specialist	Fin Stab	Risk-based compliance; systemic reform	Justice	Tshingombe	Active	[1]
Ja 37/19	Appeal Case No. Ja 37/19	Legal Case	Domestic Violence Act 116 of 1998, Protection Order, Civil procedure,	Justice	Tshingombe Tshitadi Fiston vs Elizabeth lerumu	Unresolved	[6-8]

			domestic relationship, violence workplace				
4702024FCV001046	Tshingombe Tshitadi vs Elizabeth lerumu	Domestic Violence Act 116 of 1998	Protection Order, domestic relationship, civil procedure, violence workplace	Justice	Tshingombe Tshitadi Fiston	Screen Application	[6]
1042024CIV004539	tshingombe tshitadi Civil Case	Civil Law	Civil litigation, URN registration	Justice	tshingombe tshitadi	Screen Application	[6]
GP 49/3/17	Detective Officer: Investigation Team B: Economic Crimes	Detective Service	Economic Crime investigation, quality administrative control, data integrity, crime administration system	Justice	Lt Col Henning	Applications close 30 April 2017	[6]
GP 38/3/17	Sub Section Commander: Shifts	Visible Policing	Crime prevention, sector policing, station management, physical and human resource allocation	Justice	Lt Col Henning	Applications close 30 April 2017	[6]
Not in source	Information Management System (IMS)	Kfrm6: Security scanner and biometric validation	Biometric validation, security scanner	Justice	Tshingombe Tshitadi Fiston	Prototype /In progress	[5]
Not in source	Product Certification Module	GenerateSHA256	VBA Function, CSHA256 object, SHA	Computer Science	Not in source	Certificate issued	[1, 2]

			ID output, certificate issued for product, hashing, security				
Not in source	VBA UserForm Scaffold	TextBox14, Label11, Label16, Frame1	Event-driven subroutines, private sub, cmd_Click, End Sub	Computer Science	Not in source	Ready for deployment	[1]
Not in source	frm_dataentry	UserForm	Student Registration Form, Label Caption, Student Name, height 484, width 571	Computer Science	Tshingombe	VBA Interface Design	[9]
Not in source	Simple calculation in vb visual basic	Calculation Interface	Text field, buttons for numbers, operator buttons, result button, clear, backspace	Computer Science	Tshingombe	Implementation code provided	[9]
Not in source	AGI in Human-Machine Collaboration	Research Preprint	Artificial General Intelligence, augment human capabilities, new forms of collaboration	Computer Science	Not in source	Exploration Topic	[9]
81	engineringvisual basic	Work Item	Engineering, visual basic	Computer Science	Not in source	Not in source	[10, 11]
80	engineering visual basic data system	Work Item	Engineering, visual basic, data system	Computer Science	Not in source	Not in source	[10, 11]
74	engineering data system	Work Item	Engineering, data system	Computer Science	Not in source	Not in source	[10, 11]
82	engieering visual excell ms word	Not in source	Engineering, visual basic, excel, word	Computer Science	Not in source	Not in source	[11]

Not in source	User Form Document	TextBox9	TextBox9_KeyDown, IEC61850 protocol accepted, FDR-TRP feeder tripped fault isolation, relay settings, fault code, Visual Basic	Engineering	Not in source	Protocol accepted / Feeder tripped	[1, 2]
Not in source	Generate Triangle Wave	Tri_Wave Function	VBA Function, Voltage level ramping, time point calculation, slopes, dV_dt1, dV_dt2, period ramping	Engineering	Not in source	Mathematical logic function	[1, 2, 12]
Not in source	Op amp closed loop gain	Function K_op_non / K_op_inv	Circuit analysis logic, Non-inverting amplifier (R2+R1)/R1, inverting amplifier −R2/R1, gain calculation	Engineering	Not in source	Not in source	[1, 2, 4]
Not in source	Electrical Trade Theory Engineering Nated	Internet Archive File	Electrical trade theory, engineering, nated	Engineering	Tshingombe Tshitadi Fiston	PUBLISHED	[13]
Not in source	Career Education Didactic Report	Academic Report	Curriculum assessment, innovation, trade engineering	Engineering	Tshingombe Tshitadi	Completed	[14]
Not in source	PLC Communication Programme	PLC	PLC IP Address 10.126.224.221, Read data, Write data	Engineering	tshingombe@gmail.com	Programming Stage	[9]
Not in source	Integrated	Master's	Sustainable	Engine	Not in source	Course	[9]

	Water Management in Mining	Curriculum	management, water resource evaluation, regulatory compliance, climate change impacts	ering		Syllabus	
Not in source	Advanced Wireless Communications	Electronic Engineering Module	Radio Frequency Fundamentals, Wireless Signal Propagation, 5G, Antenna Theory	Engineering	Not in source	In-depth exploration	[9]
83	engineering nated nvc excell research tvet	Work Item	Engineering, nated, nvc, excell, research, tvet	Engineering	tshingombe	Not in source	[10, 11]
67	engineering alison master	Work Item	Engineering, alison, master	Engineering	Not in source	Not in source	[10]
86	discovery career science technical engineering	Not in source	Discovery, career, science, technical, engineering	Engineering	Not in source	Not in source	[11]
85	engineering trade programe	Not in source	Engineering, trade	Engineering	Not in source	Not in source	[11]
Not in source	SineWave	VBA Function	Sine wave, Frequency, Amplitude, Phase	Engineering	Not in source	Not in source	[2, 12]
Not in source	Thesis: Research policy trade theory minimum	Research Submission	Research policy, trade theory	Justice	Fiston	REJECTED	[13]
Not in source	career project implementation framework design	F1000Research Submission	Career project, framework design	Engineering	Fiston	REJECTED	[13]
Label11	Label11_Click	VBA Label	Visual Basic, Click Event	Computer Science	Not in source	Not in source	[2]

Not in source	TextBox10_Change()	TextBox10	VBA, UserForm, Change event	Computer Science	Not in source	Private Sub	[5]
Not in source	UserForm_Initialize()	UserForm	VBA, UserForm, Initialize event	Computer Science	Not in source	Private Sub	[5]

[1] UserForm 90004444 career totand and trade portoloio.frm1.pdf
[2] TRADE THEORY AND PRATICAL TOOLS LAB WORKSHOP MANUFACTURE,,, framework.pdf
[3] UserForm17 police student registrar tshingombe tank ,,career.frm3.pdf
[4] trade electrical theoretical practic form tshing.pdfsubstation transmission workbase experiemental carer ,.pdf
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[10] Work items - Boards azure tshingombe.pdf
[11] Work items - Boards azure.pdf
[12] UserForm16 tshingombe circuit trade theory readness job.frm 2.pdf
[13] new career engineering.pdf

Based on 50 sources

Work Item ID	Project Title	Component or Module Name	Programming Language or Tool	Description	Subject Category	Source
44	GitHub Pull Requests for Visual Studio Code	vscode-pull-request-github	VS Code Extension	Allows reviewing and managing GitHub pull requests and issues directly in Visual Studio Code.	Computer Science	[1]
74	thesis master atalantic azure	engineering data system	Azure Boards	Engineering data system work item.	Engineering	[2]
80	thesis master atalantic azure	engineering visual basic data system	Azure Boards or Visual Basic	Design and development of a data system module for engineering	Computer Science	[2, 3]

				applications using Visual Basic.		
81	thesis master atalantic azure	engineering visual basic	Azure Boards or Visual Basic	Engineering development module using Visual Basic.	Engineering	[2, 3]
82	thesis master atalantic azure	engineering visual excel ms word	Azure Boards or Visual Basic	Engineering project integration involving Visual Basic, Excel, and Microsoft Word.	Engineering	[2, 3]
83	thesis master atalantic azure	engineering nated nvc excel research tvet	Azure Boards or Excel	Research and development for TVET, NATED, and NVC engineering programs using Excel.	Engineering	[2, 3]
84	thesis master atalantic azure	nrf engineering	Azure Boards	Software development work item related to NRF engineering research.	Engineering	[2]
85	thesis master atalantic azure	engineering trade programme	Azure Boards	Work item focused on the engineering trade program.	Engineering	[3]
86	thesis master atalantic azure	discovery career science technical engineering	Azure Boards	Work item for career discovery in science, technical, and engineering fields.	Engineering	[3]
Not in	Web-Based Crime Management	Crime Management Module	PHP, HTML, JavaScript,	An online application	Policing	[1, 4, 5]

source	System for Samara City Main Police Station		CSS, or MySQL/XAMPP	for citizens to report crimes and for police to manage, store, retrieve, and communicate crime records automatedly.		
Not in source	Information Management System (IMS) Modular Framework	Kfrm1	Visual Basic	Initial registration module capturing name, surname, ID, and cellphone details.	Computer Science	[1, 6]
Not in source	Information Management System (IMS) Modular Framework	Kfrm2	Visual Basic	Module for address and birthday capture.	Computer Science	[1]
Not in source	Information Management System (IMS) Modular Framework	Kfrm6	Visual Basic	Biometric scan and security validation module using binary flags for success tracking.	Computer Science	[1, 6]
Not in source	Robotic Control Interface Extension	Kinematic movement (X, Y, Z) / KfrmRobot	Visual Basic or PLC	Models robotic control for spatial mapping and servo mechanism activation using PLC command logic across X, Y, and Z axes.	Engineering	[1, 6]
Not in	Circuit Simulation Modules	Tri_Wave Function	VBA	Generates a triangle wave	Engineering	[1, 4, 7, 8]

source				ramping linearly between two voltage levels over defined periods.		
Not in source	Circuit Simulation Modules	K_op_non / K_op_inv	VBA	Calculates the closed loop gain for non-inverting and inverting operational amplifiers.	Engineering	[1, 4, 7, 8]
Not in source	Circuit Simulation Modules	SineWave Function	VBA	Calculates sine wave values given time, peak voltage, frequency, phase, and DC offset.	Engineering	[1, 4, 7, 8]
Not in source	Email Message System	Email Message Composer	Visual Basic	Automation for creating, sending, and recalling email messages with attachment handling.	Computer Science	[1]
Not in source	Vocational Trade Development	Laser Printer Component Logger	VBA	Logs technical components of a laser printer (e.g., Laser Unit, Fuser) for maintenance training.	Engineering	[1]
Not in source	Digital Logic Engine	Truth Table Generator	VBA	Parses boolean sum expressions and generates truth tables for digital	Computer Science	[1]

				logic validation.		
Not in source	The Anatomy of a Modern Engineer	Circuit Analysis & Theory	Calculus	Module covering Ohm's and Kirchhoff's laws and differential equations for grid analysis.	Engineering	[9]
Not in source	Crime Analysis Quantitative Approach	Predictive Modeling	Data Analysis Tools	Module for investigation histograms and quadratic equations for incident analysis.	Policing	[9]
Not in source	Simple calculation in vb visual basic	form1	Visual Basic	Calculates standard arithmetic operations like addition, division, square root, and percentages through a user interface.	Computer Science	[10]
Not in source	Automated student's registration form	frm dataentry	Excel and VBA	A system to automate student registration including data entry of names, gender, course, and email IDs into a database.	Computer Science	[10]
Not in source	AUTOMATED TELLER MACHINE SYSTEM	transactionsGBox	VB .NET, Visual Basic, or MS ACCESS	An ATM system module handling account	Computer Science	[8, 10, 11]

				numbers, PIN verification, deposits, withdrawals, and balance inquiries.		
Not in source	Basic Software Engineering Concept Solve Electrical and Electronics Engineering Problem	Circuit construction	PBasic and Arduino	Using software engineering concepts to build and test counter and shift register circuits.	Engineering	[10]
Not in source	Detective Officer: Investigation Team B: Economic Crimes	Crime Administration System (CAS)	CAS	SAPS system used to ensure relevant crime information from case dockets is reflected for investigative control.	Policing	[12]
Not in source	Record Management Engine	KfrmArchiveIPValidator	VBA	Automated system using procedural logic for mapping, validating, and connecting legal and academic records.	Computer Science	[11, 13, 14]
Not in source	PLC COMMUNICATION PROGRAMME	Not in source	C#	Program to read and write data to a PLC using specific commands and base addresses for device	Engineering	[10]

				communication.		
Not in source	Masters in Urban Water Supply, Sewerage, Waste Management, and Remediation Activities	Sewerage Systems Design and Management	Not in source	Academic research module covering engineering principles of sewerage system design and resource recovery.	Engineering	[10]
Not in source	Advanced Legal Studies in Public Administration and Safety	Legal Frameworks for Public Safety	Not in source	Academic module examining legal structures and policies designed to protect public safety.	Policing	[10]

[1] UserForm 90004444 career totand and trade portoloio.frm1.pdf
[2] Work items - Boards azure tshingombe.pdf
[3] Work items - Boards azure.pdf
[4] TRADE THEORY AND PRATICAL TOOLS LAB WORKSHOP MANUFACTURE,,, framework.pdf
[5] UserForm17 police student registrar tshingombe tank ,,career.frm3.pdf
[6] UserForm total career outcom 90000333 , completed tota.frm to trade.frmt5.pdf
[7] UserForm16 tshingombe circuit trade theory readness job.frm 2.pdf
[8] trade electrical theoretical practic form tshing.pdfsubstation transmission workbase experiemental carer ,.pdf
[9] new career engineering.pdf
[10] Doc13 design tshing.docx
[11] UserForm1 5tshingombe atm.pdf
[12] tshingombe REPUBLIC OF SOUTH AFRICA.docx
[13] tshingombe REPUBLIC OF SOUTH AFRICA.pdf

Based on 38 sources

Credential Type	Title or Qualification	Institution or Platform	National Framework Level (e.g., NQF)	Status (e.g., Certified, Rejected, In Progress)	Key Competencies or Modules	Evidence Type (e.g., Diploma, GitHub, Research Paper)	Source

Academic Qualification	National N Diploma: Electrical Engineering	ST Peace College / DHET	6	Certified / Unresolved (Systemic Backlog)	Electrical Trade Theory, Mathematics (N1-N6), Engineering Science, Electro-Technology, Industrial Electronics, Electrotechnics, Plant Operation	Diploma (360 Credits) / NATED N1-N6 Exam Records	[1-3]
Academic Qualification	Engineering Electrical N4-N6	ST Peace College	5	Certified	Electrical Trade Theory, Industrial Electronics, Electrotechnique, Mechanitechnique	Diploma / Result Statement	[1]
Intellectual Output	Master Education Technology Rural Implementation Framework	Atlantic International University (AIU)	9	Accepted/Submitted	Education Technology, Rural Implementation	Thesis	[2]
Intellectual Output	Web-Based Crime Management System for Samara City Main Police Station	Qeios	Not in source	Preprint (Published)	Computer Science, Information Systems, Client-Server Architecture, OOA, PHP, MySQL, System Modeling	Research Article (DOI: 10.32388/JGU5FH)	[1, 4]
Industry Certification	Industrial Automation Using EcoStruxure (Altivar	Schneider Electric	Not in source	Certified	Automation Expert, Modicon Switches, ATV340	Training Transcript (140+ courses)	[1, 3]

	Machine Professional)				Mounting & Cabling, Drives Basics, Error Handling, PID Control		
Industry Certification	Discover Data Concepts and Implement Solutions with Microsoft Fabric	Microsoft Learn	Not in source	Certified	Data discovery, classification, Azure, Microsoft Fabric	Learning Path Accomplishment	[3]
Industry Certification	Energy Mgmt Compliance	Schneider Electric	Not in source	Certified	Smart Panel, Power Products (Compact NSX, MCCBs)	Certificate of Completion	[2]
Online Certification	ISO 37301:2021 Principle of Compliance Management System	Alison	Not in source	Certified (91%)	Compliance management principles	Digital Certificate	[3, 5]
Online Certification	AI Fluency Path	Microsoft Learn	Not in source	Certified	Azure AI basics, Generative AI, Responsible AI	Badge / Trophy	[1]
Online Certification	Diploma in Teaching Skills For Educators	Alison	Not in source	Certified	Constructivism, Behaviouralism, Taxonomy of Learning	Diploma	[2]
Intellectual Output	Information Management System	GitHub	Not in source	Certified / Published	Visual Basic, Modular Framework, Biometric	GitHub Repository / VB Code	[1, 3]

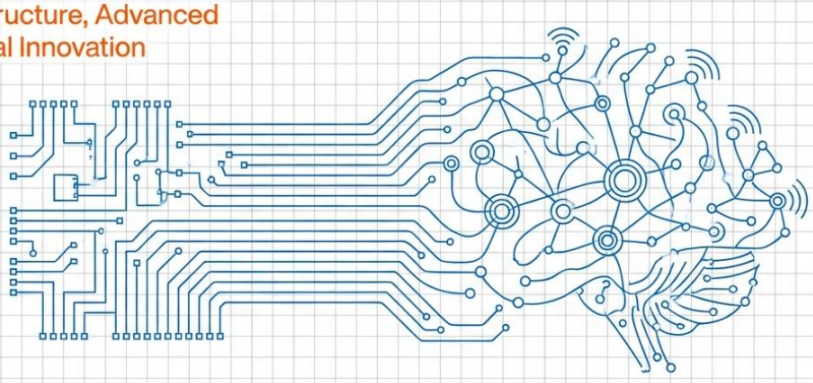
	(IMS) Prototype / Visual Basic Record Management System				Validation, SHA256, VBA Logic, Logigrammes, Algorigrammes		
Intellectual Output	VBA-Driven Compliance Scoring Engine	Internal / GitHub	Not in source	Certified	SANS 10142 mapping, OHS Act automation, Audit-trail generation	GitHub / Portfolio	[1]
Intellectual Output	Thesis: Research policy trade theory minimum: legislation skill development	GitHub / F1000Research	Not in source	Archived / Rejected	Legislation skill development, Research policy, Educational technology research	GitHub Repository / Submission Record	[2, 3]
Intellectual Output	Basic Electrical Safety	Sci-Bono Discovery Centre	4	Certified	Electrical Wiring Kit, WA Code EA2	Certificate	[2]
Professional Registration	Assessor / Moderator	SASSETA	Not in source	Certified	Engineering Fabrication, Security Management Electronics	Moderator Certificate	[3]
Industry Training	Introduction to Data Engineering on Azure	Microsoft	Not in source	Certified	Azure Synapse, Data Management, Cloud Security	Microsoft Verified Credentials	[2]
Legal/Compliance Record	Labour Law Training	SASSETA / CCMA	Not in source	Certified	Workplace Dispute Resolution	Training Record	[2]
Academic Qualification	Certificate, Mathematics & Computer	UNIKIN (DR Congo)	Not in source	Certified	MS DOS, Word, Excel	Foreign Certificate	[2]

	Science						
Industry Certification	Schneider Home Certification	Schneider Electric	Not in source	In Progress	Schneider Inverter, Pulse Backup Controller, Load Control	Training Log	[1]
Research Proposal	Impact of Nanotechnology on Society	Eskom Expo	Not in source	In Progress	Social Sciences, Technology & Society, Nanoscale Transistors	Research Plan	[1]
Grant Application	Thuthuka PhD Track	National Research Foundation (NRF)	Not in source	In Progress / Under Review	Strategic Research & Development	Grant Application	[3]
Systemic Hurdle	N4-N6 Irregularity Case	DHET / College	5	Rejected / Suspended	Engineering Electrical Studies	Audit Report	[1]
Grant Application	NSF I-Corps Program (Core Technology)	National Science Foundation (NSF)	Not in source	Declined / Rejected	Experimental career learning, University/Industry practice, Core technology development	Application Decision Letter / Notification Letter	[2, 3]

[1] UserForm 90004444 career totand and trade portoloio.frm1.pdf
[2] new 3career engineering3.pdf
[3] new career engineering.pdf
[4] UserForm17 police student registrar tshingombe tank ,,career.frm3.pdf

Engineering the Future: An Integrated Systems Portfolio

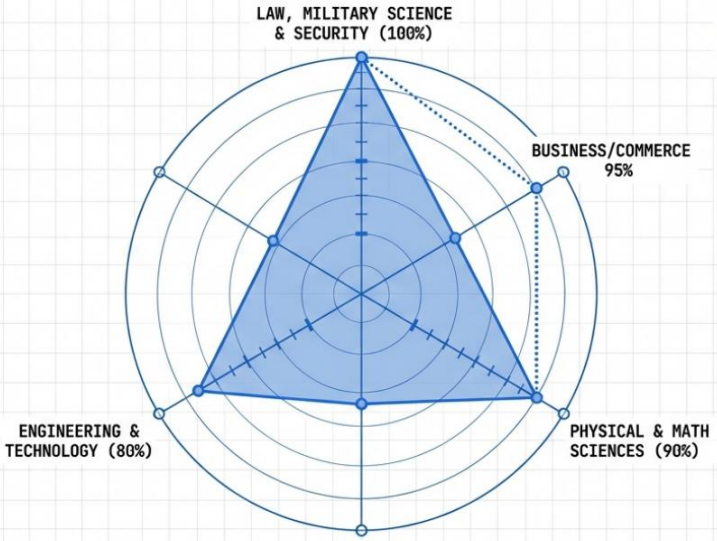
Bridging Electrical Infrastructure, Advanced Control Theory, and Digital Innovation



CAPABILITY SHOWCASE:
THEORETICAL RIGOR / TECHNICAL APPLICATION / FUTURE VISION

SUBJECT: TSHINGOMBE TSHITADI FISTON

NotebookLM



A MULTIDISCIPLINARY PROFESSIONAL PROFILE

The "T-Shaped" Profile: Deep vertical expertise in Electrical Engineering supported by a broad horizontal understanding of governance, commercial strategy, and social impact.

NCAP INTEREST ASSESSMENT RESULTS:

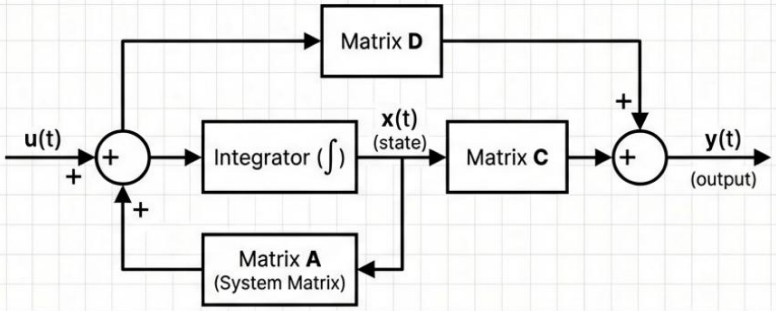
01. **Law & Security:** 100% (Rank 1)
    > Proficiency in regulatory frameworks, safety compliance, and systematic order.
02. **Science & Math:** 90% (Rank 5)
    > Deep analytical capability and scientific method application.
03. **Manufacturing & Engineering:** 80% (Rank 10)
    > Practical application of theory to physical systems.

STATUS: ADMISSION READY (AIU) / CPD ACTIVE

NotebookLM

Theoretical Foundation: State-Space Representation

Mathematical Modeling of Dynamic Physical Systems



VARIABLES:
u = Input Vector
y = Output Vector
x = State Variables (Internal Memory)

APPLICATION:
Modeling MIMO (Multiple-Input Multiple-Output) systems in economics, neuroscience, and electrical engineering.

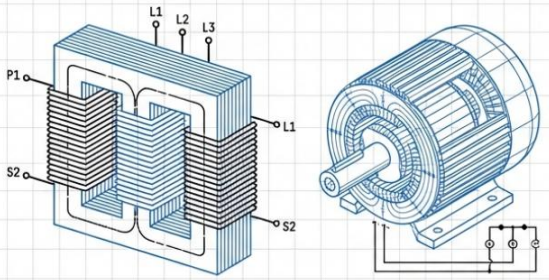
Stability determined via eigenvalues of Matrix **A**.

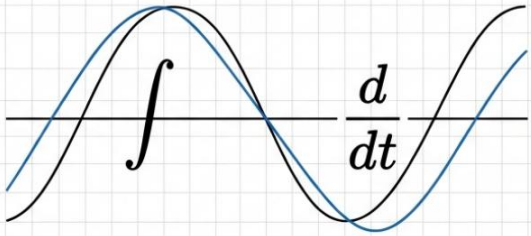
State Equation: $\dot{x}(t) = A(t)x(t) + B(t)u(t)$

Output Equation: $y(t) = C(t)x(t) + D(t)u(t)$

NotebookLM

Core Competency: Electrical Engineering & Power Systems





TECHNICAL MODULES

> **AC/DC Machines**: Torque analysis & power generation.
> **Transformers & Earthing**: High-voltage safety, step-up/down efficiency.
> **Circuit Theory**: RLC Circuits, Resonance, and Impedance.

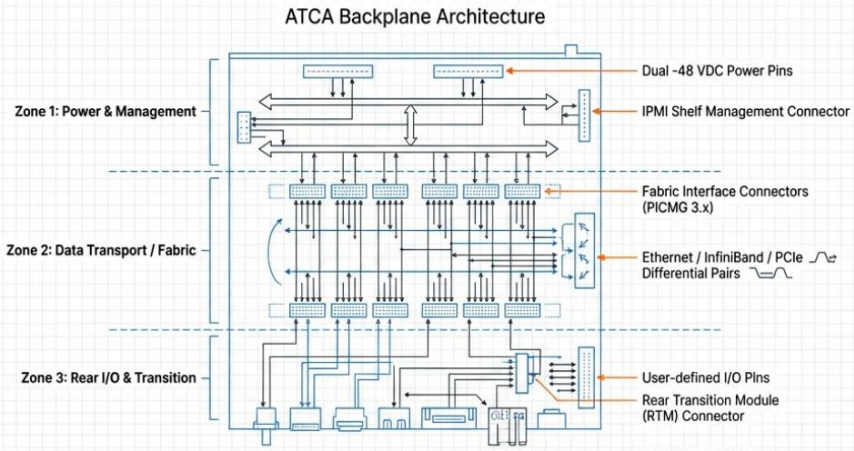
CALCULUS IN ENGINEERING

> **Integration** (∫): Calculating RMS values in AC waveforms and energy storage in capacitors.
> **Differentiation** (d/dt): Load flow analysis and Faraday's Law of Induction.
> **Application**: Fault diagnosis and power sizing for City Power infrastructure.

NotebookLM

Infrastructure Architecture: ATCA & Telecommunications

Advanced Telecommunications Computing Architecture (PICMG 3.x)


ATCA Backplane Architecture
Zone 1: Power & Management
Zone 2: Data Transport / Fabric
Zone 3: Rear I/O & Transition
Dual -48 VDC Power Pins
IPMI Shelf Management Connector
Fabric Interface Connectors (PICMG 3.x)
Ethernet / InfiniBand / PCIe Differential Pairs
User-defined I/O PIns
Rear Transition Module (RTM) Connector

THE PHYSICAL BACKBONE

> Carrier Grade reliability (99.999% uptime).
> Evolution: From 1G Analog → 5G Spatial Computing.
> Shift from circuit-switched to packet-switched networks.

SPECIFICATIONS

Zone 1: Dual -48 VDC Power, IPMI Shelf Management.
Zone 2: Fabric Interface (Ethernet, InfiniBand, PCIe).
Zone 3: User-defined I/O, Rear Transition Modules (RTM).

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Digital Transformation: Cloud & Data Intelligence

Leveraging the Microsoft Ecosystem for Engineering Solutions

COMPETENCY CLUSTERS:

01. CLOUD INFRASTRUCTURE

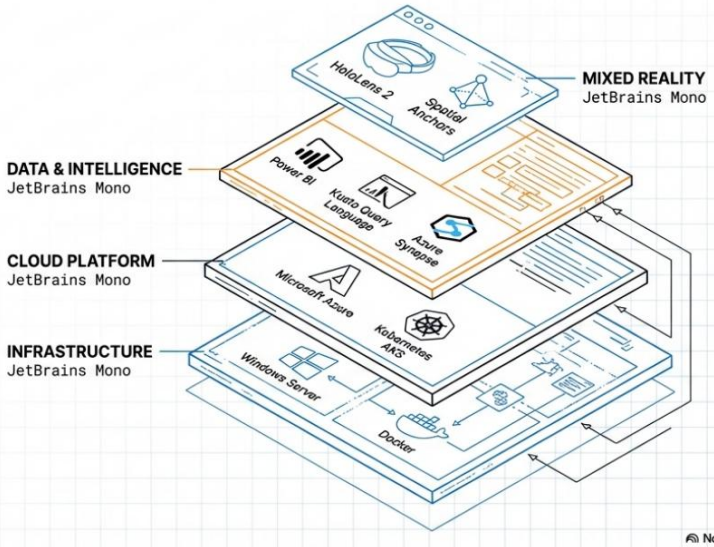
- Deploying containerized applications via Docker and Azure Kubernetes Service (AKS).

02. DATA SCIENCE

- Extracting insights using Kusto Query Language (KQL) and visualizing via Power BI. Connecting "Big Data" to electrical fault diagnosis.

03. MIXED REALITY

- Connecting Digital Twins to physical spaces using Azure Spatial Anchors.



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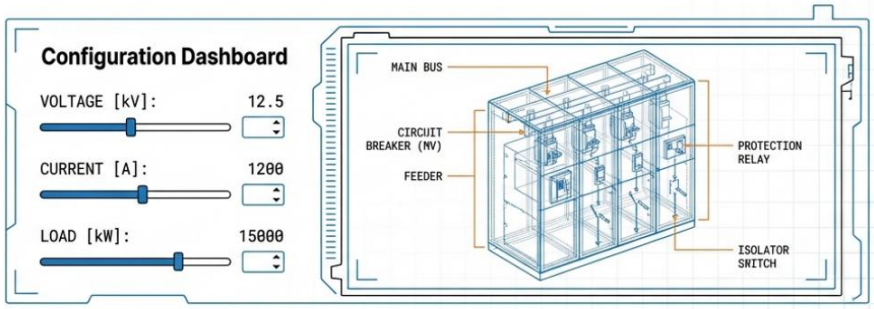
Applied Technology: Automation & Configuration

Industrial Certifications & Practical Configuration



Schneider Electric Expertise

Schneider Electric

> EcoStruxure Automation Expert
> MV/LV Power Systems Design.
> Protection Relays configuration.
> Robotic Process Automation (RPA) applied to electrochemical engineering.

Eaton Competencies

EATON

> Power Systems & Switchgear
> Low-Voltage Switchgear configuration.
> Smart Grid Technology.
> Power Xpert sizing and Bill of Materials (BOM) generation.

PROCESS: FAULT DIAGNOSIS

Using calculus-based logic for fault finding in heavy current systems.

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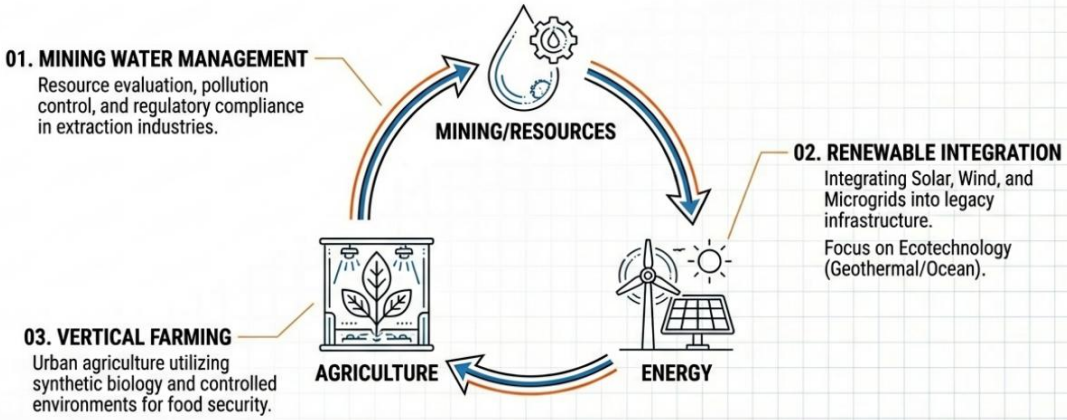
Strategic Research: Sustainability & Resource Management

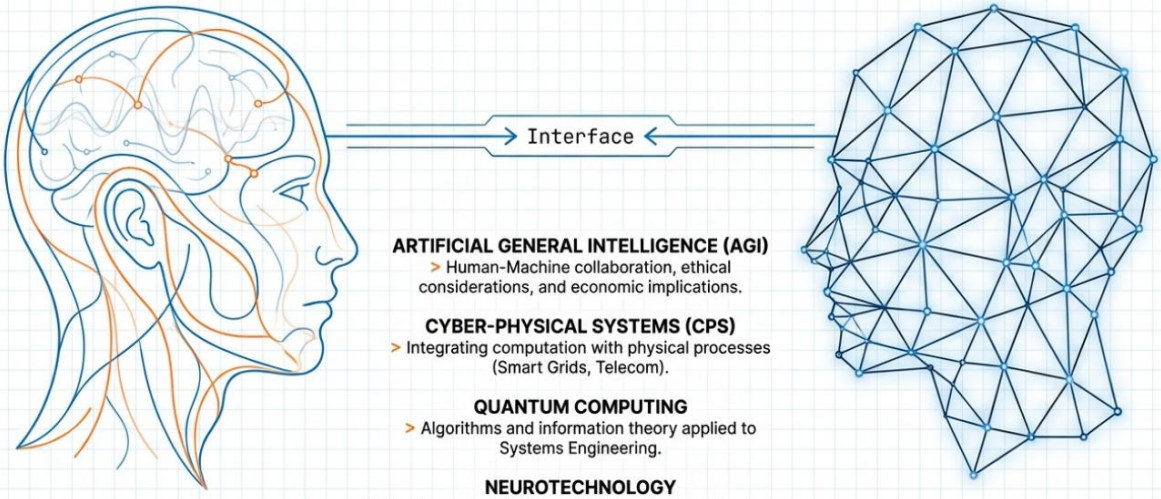
Engineering Solutions for Environmental Challenges


01. MINING WATER MANAGEMENT
Resource evaluation, pollution control, and regulatory compliance in extraction industries.
MINING/RESOURCES
02. RENEWABLE INTEGRATION
Integrating Solar, Wind, and Microgrids into legacy infrastructure.
Focus on Ecotechnology (Geothermal/Ocean).
03. VERTICAL FARMING
Urban agriculture utilizing synthetic biology and controlled environments for food security.
AGRICULTURE
ENERGY

NotebookLM

Future Frontiers: AGI & Cyber-Physical Systems

The Intersection of Human Cognition and Machine Logic



ARTIFICIAL GENERAL INTELLIGENCE (AGI)
> Human-Machine collaboration, ethical considerations, and economic implications.

CYBER-PHYSICAL SYSTEMS (CPS)
> Integrating computation with physical processes (Smart Grids, Telecom).

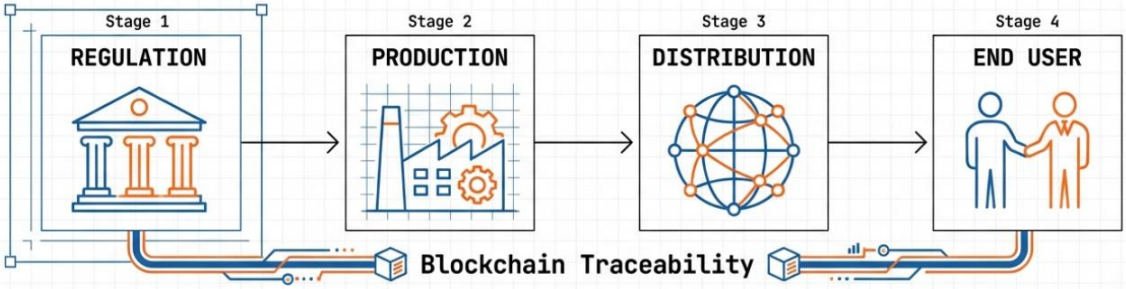
QUANTUM COMPUTING
> Algorithms and information theory applied to Systems Engineering.

NEUROTECHNOLOGY
> Brain-Computer Interfaces (BCI) in educational technology.

NotebookLM

Commerce & Governance: The Business of Engineering

Supply Chain, Law, and Digital Economy



Key Competencies

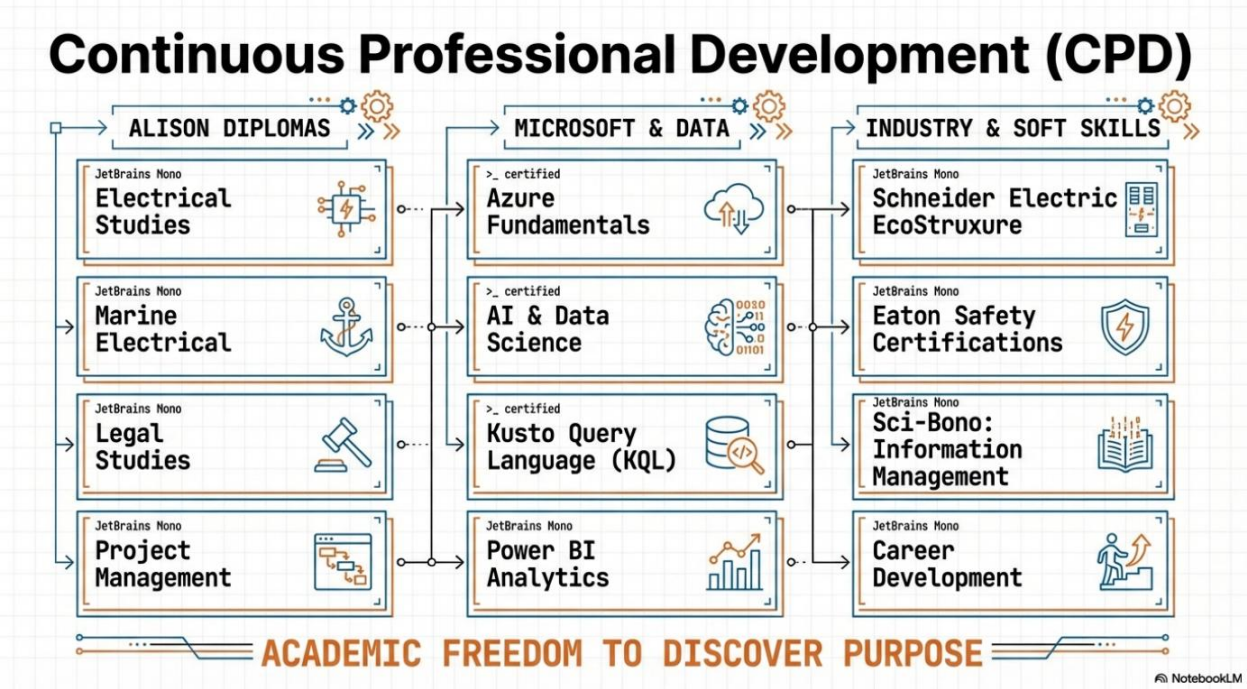
JetBrains Mono
LEGAL FRAMEWORKS (NCAP 100%)
Public Administration, Administrative Law, and Safety/Security compliance.

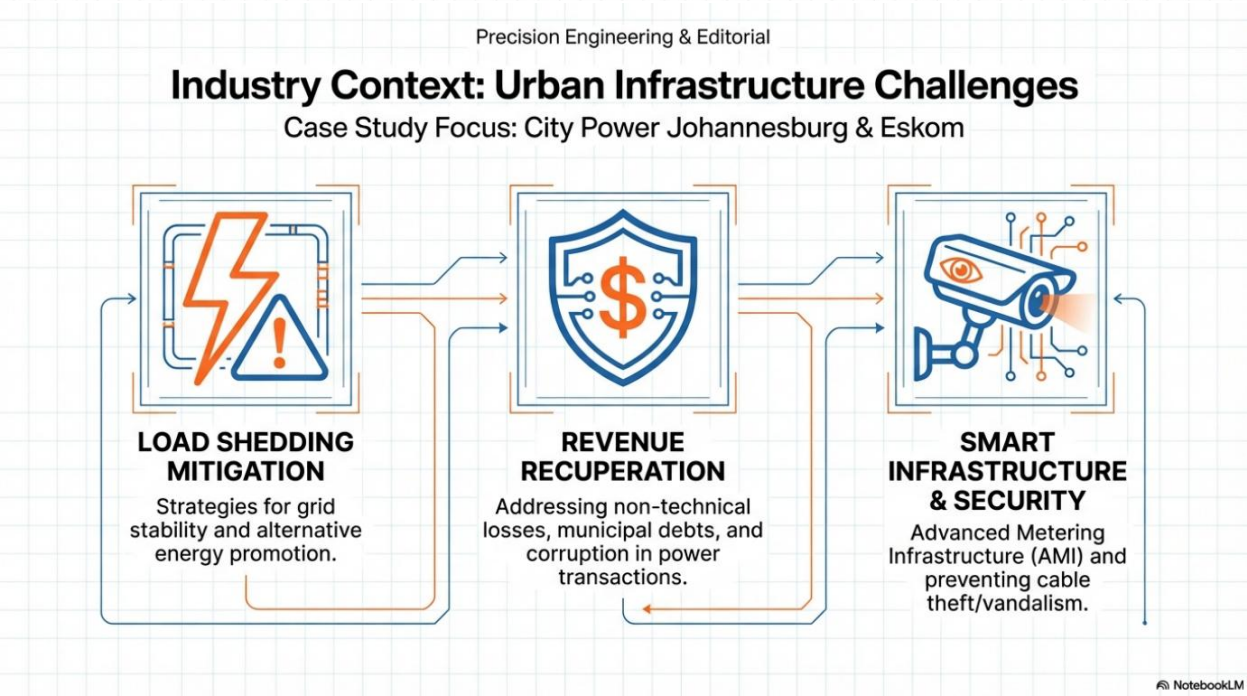
JetBrains Mono
SUPPLY CHAIN TRACEABILITY
Using Blockchain for secure logistics and credentialing.

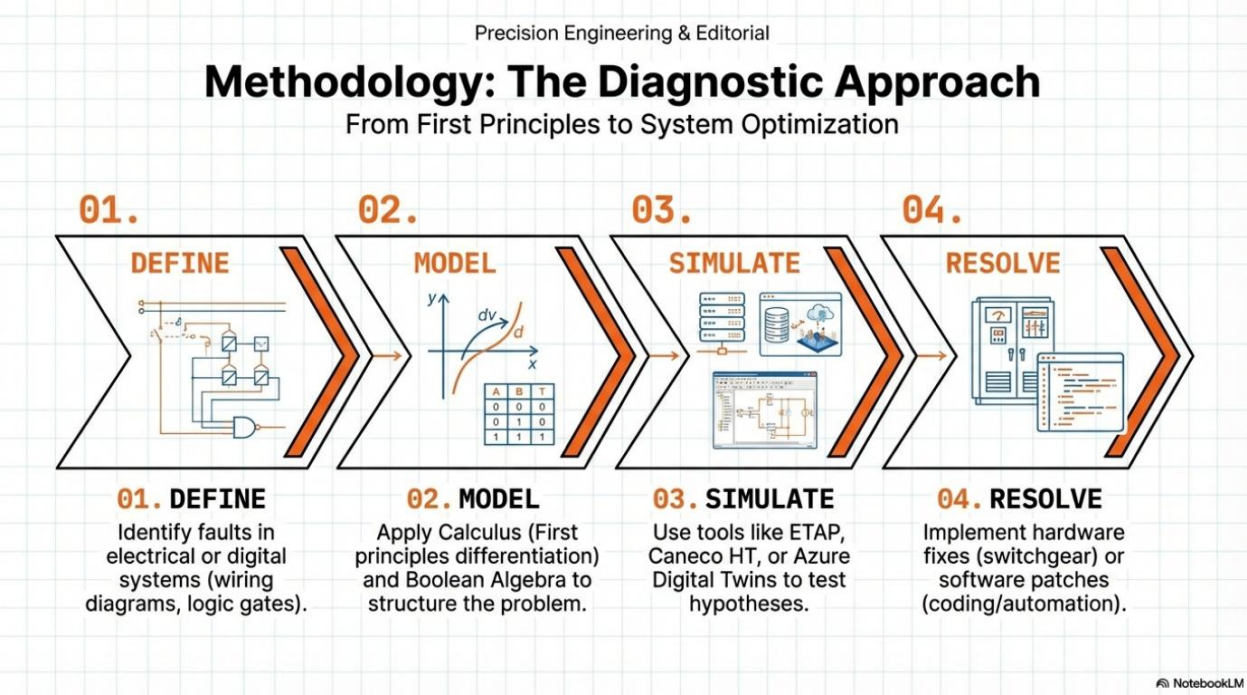
JetBrains Mono
E-COMMERCE IN ENERGY
B2B frameworks for electric power retail and regulatory environments for renewables.

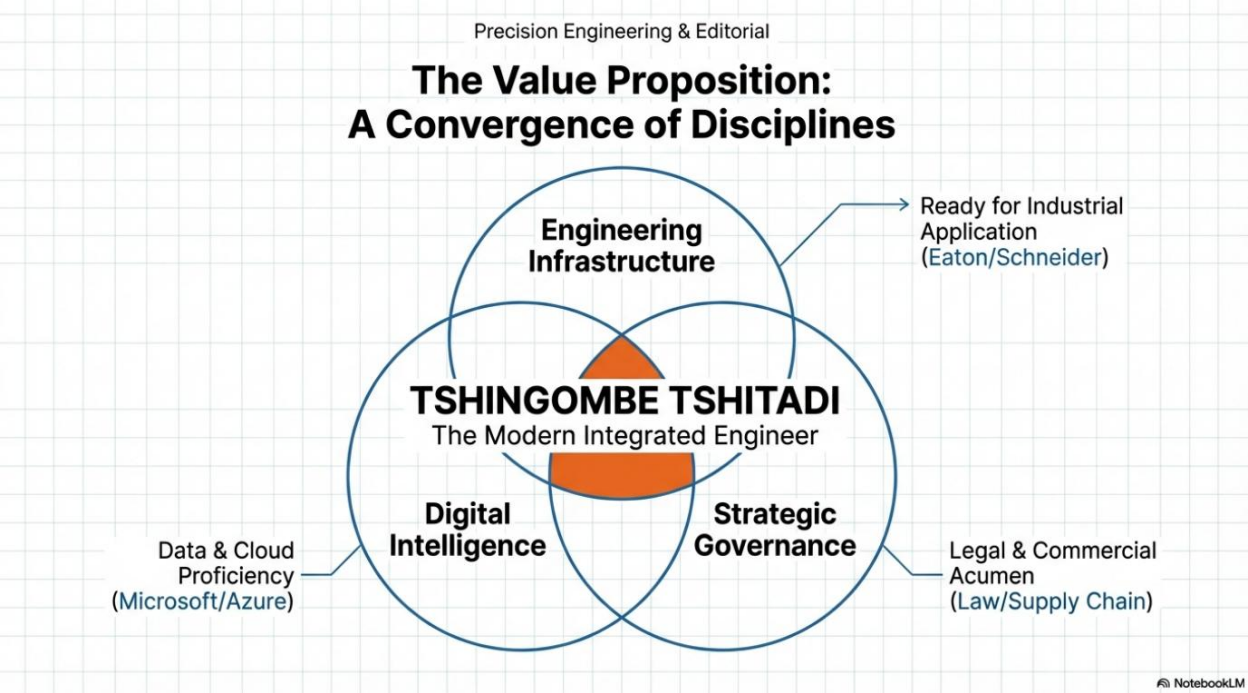
JetBrains Mono
WHOLESALE TRADE MANAGEMENT
Inventory control, procurement strategies, and risk management.

NotebookLM


Continuous Professional Development (CPD)
ALISON DIPLOMAS
MICROSOFT & DATA
INDUSTRY & SOFT SKILLS
Electrical Studies
Marine Electrical
Legal Studies
Project Management
Azure Fundamentals
AI & Data Science
Kusto Query Language (KQL)
Power BI Analytics
Schneider Electric EcoStruxure
Eaton Safety Certifications
Sci-Bono: Information Management
Career Development
ACADEMIC FREEDOM TO DISCOVER PURPOSE
NotebookLM


Precision Engineering & Editorial
Industry Context: Urban Infrastructure Challenges
Case Study Focus: City Power Johannesburg & Eskom
LOAD SHEDDING MITIGATION
Strategies for grid stability and alternative energy promotion.
REVENUE RECUPERATION
Addressing non-technical losses, municipal debts, and corruption in power transactions.
SMART INFRASTRUCTURE & SECURITY
Advanced Metering Infrastructure (AMI) and preventing cable theft/vandalism.
NotebookLM


Precision Engineering & Editorial
Methodology: The Diagnostic Approach
From First Principles to System Optimization
01.
DEFINE
02.
MODEL
03.
SIMULATE
04.
RESOLVE
01. DEFINE
Identify faults in electrical or digital systems (wiring diagrams, logic gates).
02. MODEL
Apply Calculus (First principles differentiation) and Boolean Algebra to structure the problem.
03. SIMULATE
Use tools like ETAP, Caneco HT, or Azure Digital Twins to test hypotheses.
04. RESOLVE
Implement hardware fixes (switchgear) or software patches (coding/automation).
NotebookLM



“Academic Freedom to Discover Your Purpose.”

— Atlantic International University Open Curriculum Design

TSHINGOMBE TSHITADI FISTON
Ready to Engineer the Next Generation of Infrastructure.

CONTACT:
tshingombefiston@gmail.com
Johannesburg, South Africa

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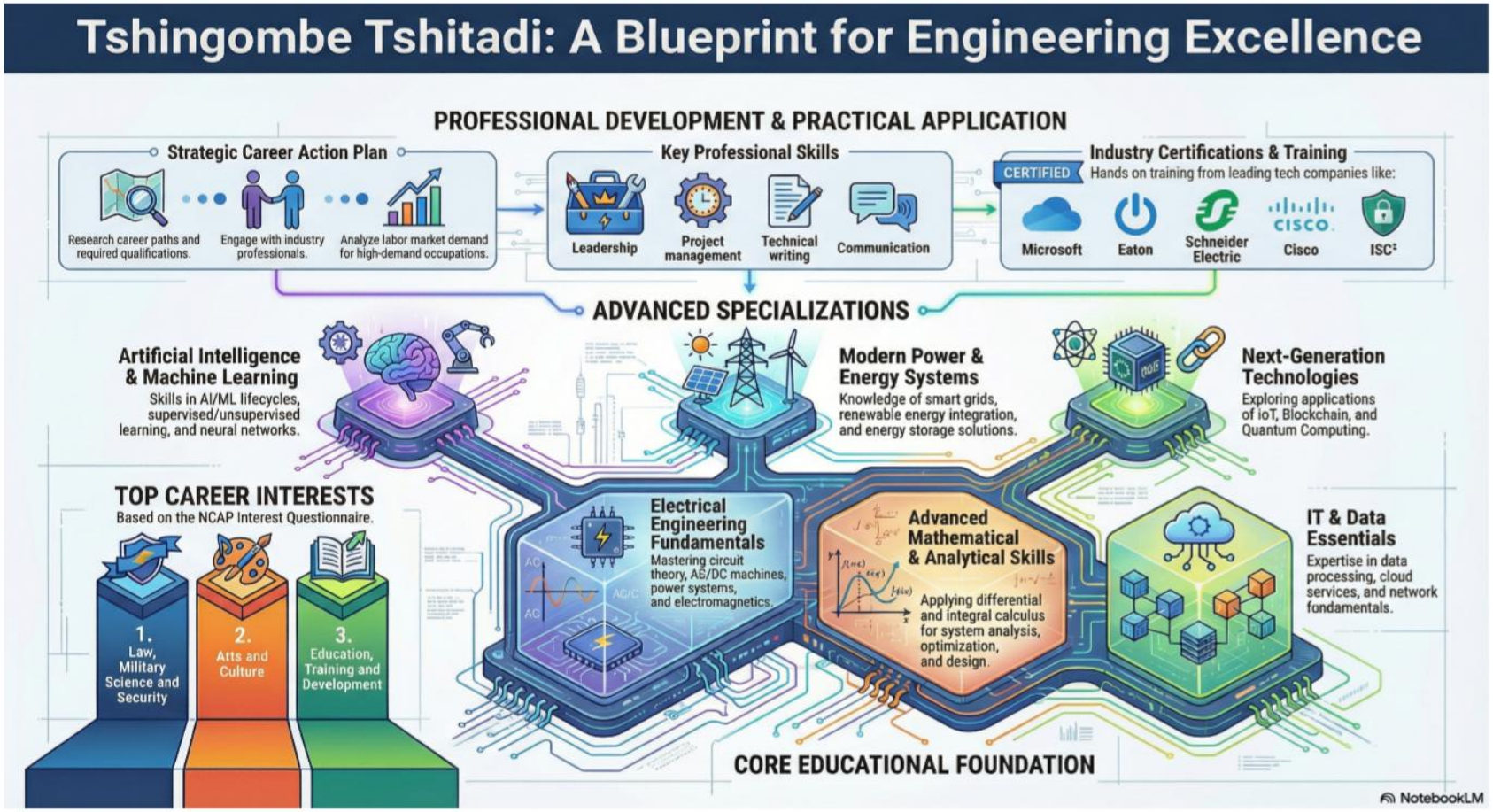
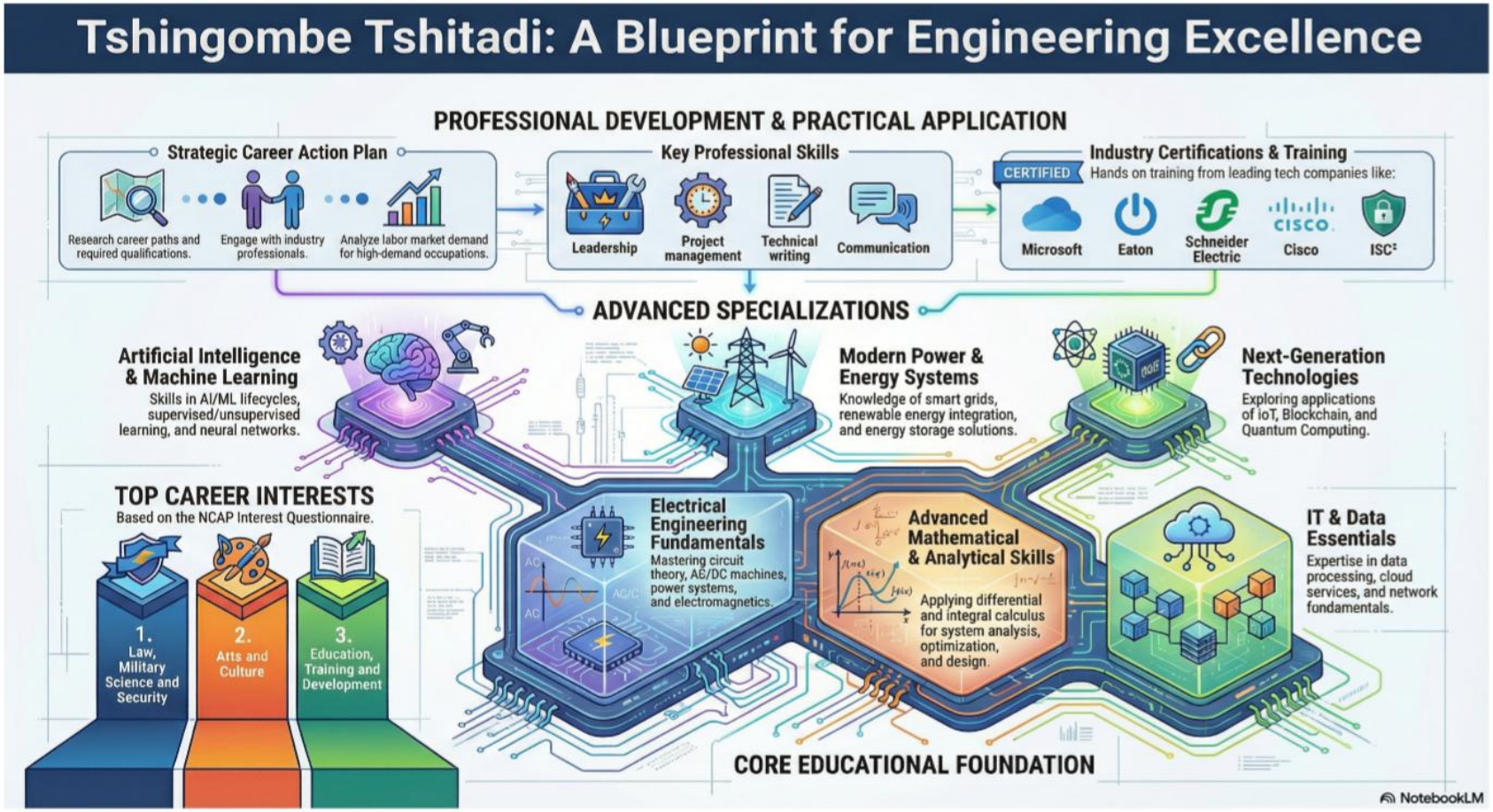
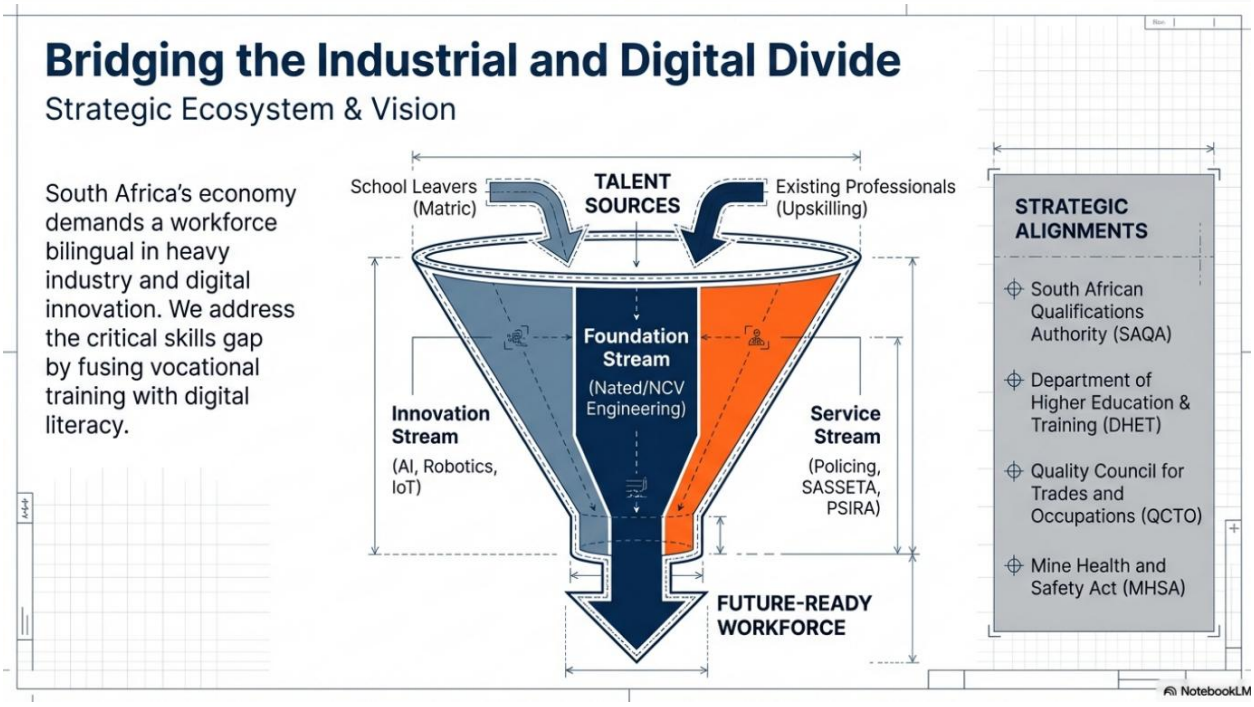
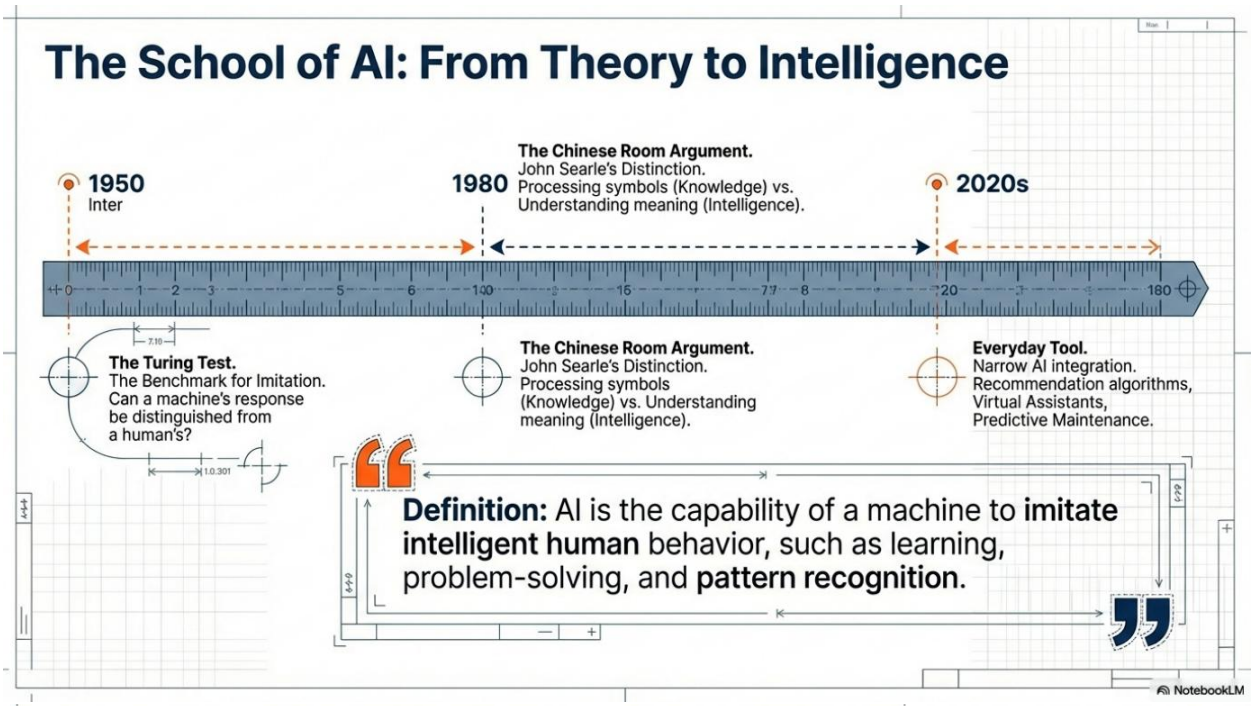
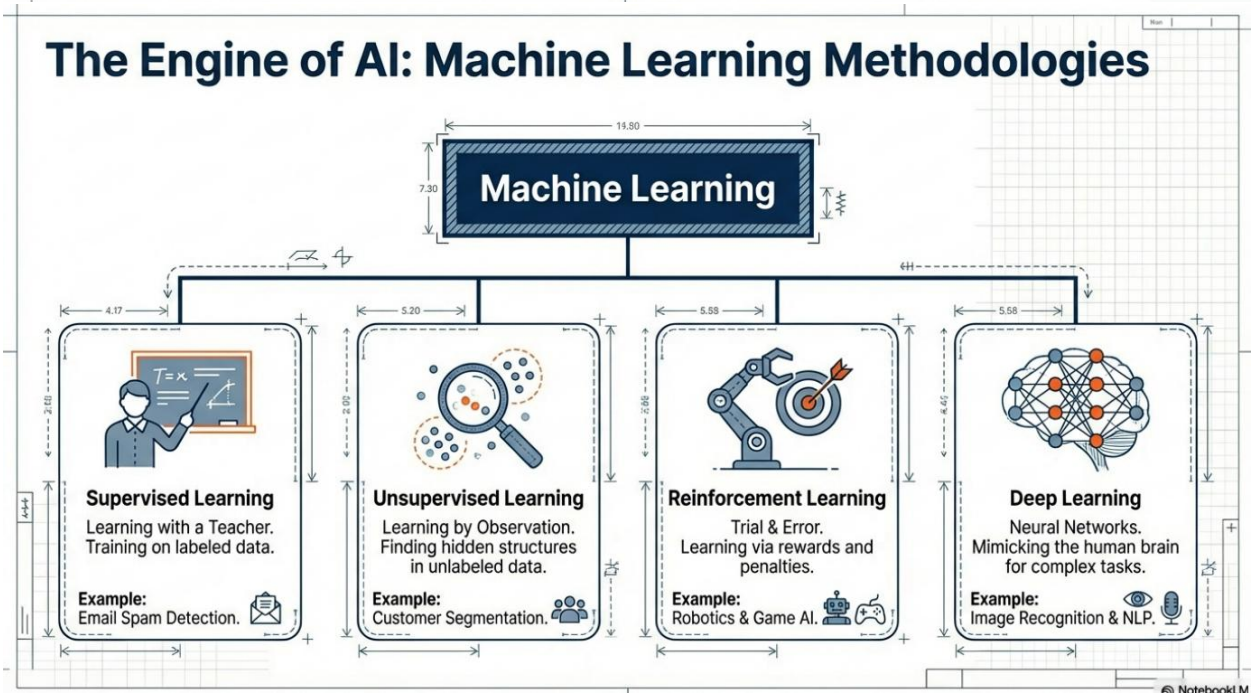

Tshingombe Tshitadi: A Blueprint for Engineering Excellence
PROFESSIONAL DEVELOPMENT & PRACTICAL APPLICATION
Strategic Career Action Plan
Research career paths and required qualifications.
Engage with industry professionals.
Analyze labor market demand for high-demand occupations.
Key Professional Skills
Leadership
Project management
Technical writing
Communication
Industry Certifications & Training
CERTIFIED
Hands on training from leading tech companies like:
Microsoft
Eaton
Schneider Electric
Cisco
ISC²
ADVANCED SPECIALIZATIONS
Artificial Intelligence & Machine Learning
Skills in AI/ML lifecycles, supervised/unsupervised learning, and neural networks.
Modern Power & Energy Systems
Knowledge of smart grids, renewable energy integration, and energy storage solutions.
Next-Generation Technologies
Exploring applications of IoT, Blockchain, and Quantum Computing.
TOP CAREER INTERESTS
Based on the NCAP Interest Questionnaire.
1. Law, Military Science and Security
2. Arts and Culture
3. Education, Training and Development
Electrical Engineering Fundamentals
Mastering circuit theory, AE/DC machines, power systems, and electromagnetics.
Advanced Mathematical & Analytical Skills
Applying differential and integral calculus for system analysis, optimization, and design.
IT & Data Essentials
Expertise in data processing, cloud services, and network fundamentals.
CORE EDUCATIONAL FOUNDATION
NotebookLM


Tshingombe Tshitadi: A Blueprint for Engineering Excellence
PROFESSIONAL DEVELOPMENT & PRACTICAL APPLICATION
Strategic Career Action Plan
Research career paths and required qualifications.
Engage with industry professionals.
Analyze labor market demand for high-demand occupations.
Key Professional Skills
Leadership
Project management
Technical writing
Communication
Industry Certifications & Training
CERTIFIED
Hands on training from leading tech companies like:
Microsoft
Eaton
Schneider Electric
Cisco
ISC²
ADVANCED SPECIALIZATIONS
Artificial Intelligence & Machine Learning
Skills in AI/ML lifecycles, supervised/unsupervised learning, and neural networks.
Modern Power & Energy Systems
Knowledge of smart grids, renewable energy integration, and energy storage solutions.
Next-Generation Technologies
Exploring applications of IoT, Blockchain, and Quantum Computing.
TOP CAREER INTERESTS
Based on the NCAP Interest Questionnaire.
1. Law, Military Science and Security
2. Arts and Culture
3. Education, Training and Development
Electrical Engineering Fundamentals
Mastering circuit theory, AE/DC machines, power systems, and electromagnetics.
Advanced Mathematical & Analytical Skills
Applying differential and integral calculus for system analysis, optimization, and design.
IT & Data Essentials
Expertise in data processing, cloud services, and network fundamentals.
CORE EDUCATIONAL FOUNDATION
NotebookLM

GEAR ASSEMBLY - REV 1.2
HIDDEN LAYERS (x3)
INPUT LAYER
WEIGHTED CONNECTION
OUTPUT NODE
INFLOW/ OUTFLOW
INFLOW/OUTFLOW PATHS
TURBINE STAGE PATH1
TURBINE STAGE 3
INPUT LAYER
WEIGHTED CONNECTION
HIDDEN LAYERS (x3)
Integrated Workforce Development
Bridging Technical Trades, Policing, and Artificial Intelligence for the 4th Industrial Revolution
Presented by St Peace College & Sci-Bono ICT Academy | Portfolio of Evidence
NotebookLM

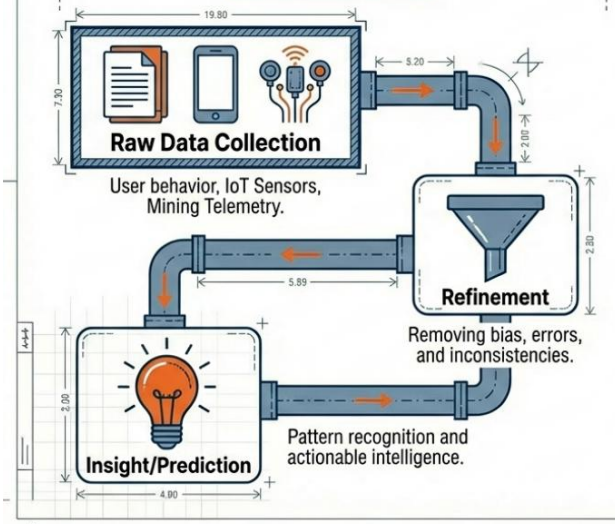

Bridging the Industrial and Digital Divide
Strategic Ecosystem & Vision
South Africa's economy demands a workforce bilingual in heavy industry and digital innovation. We address the critical skills gap by fusing vocational training with digital literacy.
School Leavers (Matric)
TALENT SOURCES
Existing Professionals (Upskilling)
Foundation Stream
(Nated/NCV Engineering)
Innovation Stream
(AI, Robotics, IoT)
Service Stream
(Policing, SASSETA, PSIRA)
FUTURE-READY WORKFORCE
STRATEGIC ALIGNMENTS
South African Qualifications Authority (SAQA)
Department of Higher Education & Training (DHET)
Quality Council for Trades and Occupations (QCTO)
Mine Health and Safety Act (MHSA)
NotebookLM


The School of AI: From Theory to Intelligence
1950
Inter
1980
The Chinese Room Argument.
John Searle's Distinction.
Processing symbols (Knowledge) vs.
Understanding meaning (Intelligence).
2020s
The Turing Test.
The Benchmark for Imitation.
Can a machine's response be distinguished from a human's?
The Chinese Room Argument.
John Searle's Distinction.
Processing symbols (Knowledge) vs. Understanding meaning (Intelligence).
Everyday Tool.
Narrow AI integration.
Recommendation algorithms,
Virtual Assistants,
Predictive Maintenance.
Definition: AI is the capability of a machine to imitate intelligent human behavior, such as learning, problem-solving, and pattern recognition.
NotebookLM


The Engine of AI: Machine Learning Methodologies
Machine Learning
Supervised Learning
Learning with a Teacher.
Training on labeled data.
Example:
Email Spam Detection.
Unsupervised Learning
Learning by Observation.
Finding hidden structures in unlabeled data.
Example:
Customer Segmentation.
Reinforcement Learning
Trial & Error.
Learning via rewards and penalties.
Example:
Robotics & Game AI.
Deep Learning
Neural Networks.
Mimicking the human brain for complex tasks.
Example:
Image Recognition & NLP.
NotebookLM

Data: The Fuel for Intelligent Systems

The Process



Ethics & Responsibility

DATA GOVERNANCE PROTOCOL

Bias & Fairness: ensuring datasets represent diverse populations to prevent algorithmic discrimination.

Privacy Compliance: Strict adherence to POPIA (Protection of Personal Information Act) and data governance standards.

Limitations: Acknowledging that AI lacks consciousness. It is a tool for calculation, not a replacement for human judgment.

ETHICAL CONSIDERATIONS UNIT

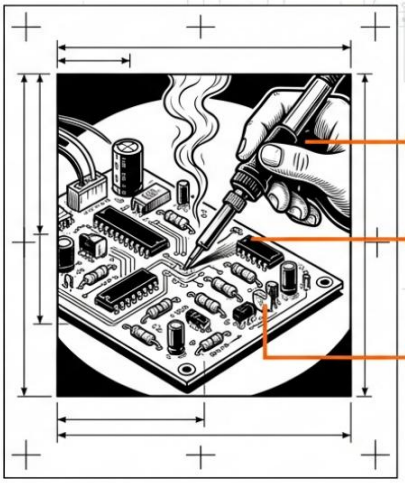
NotebookLM

School of Engineering: Electrical Infrastructure

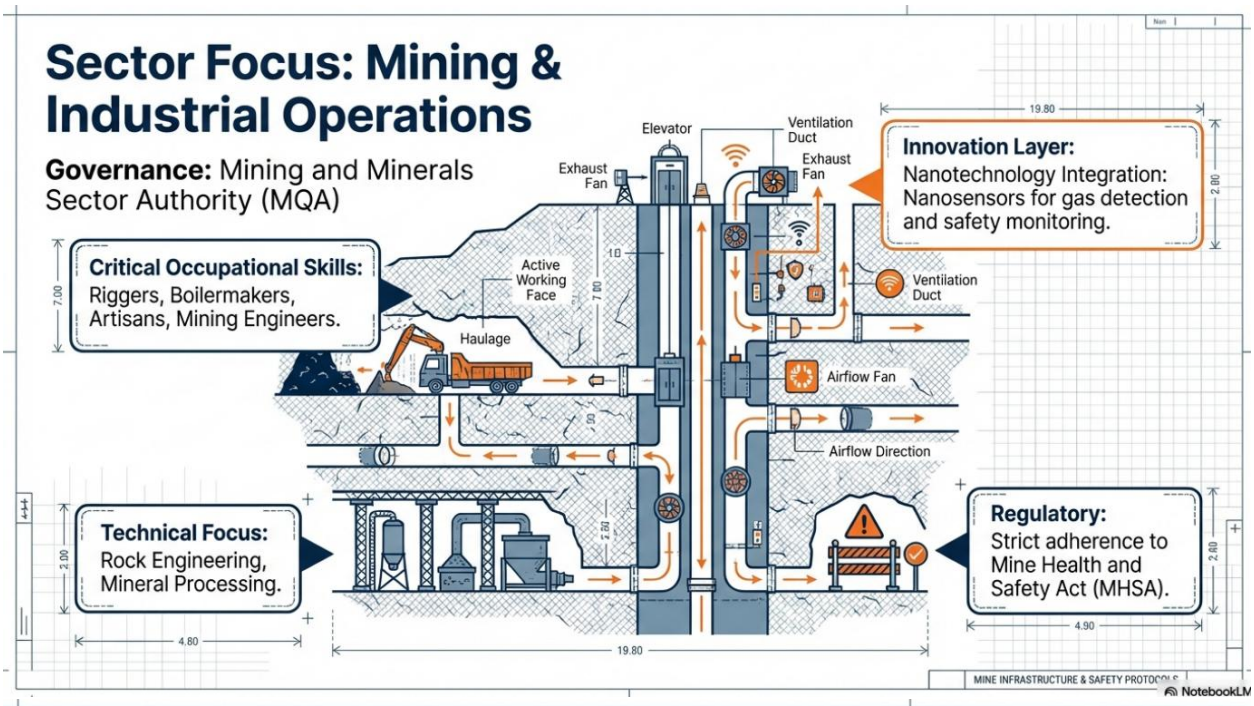
Specification Sheet

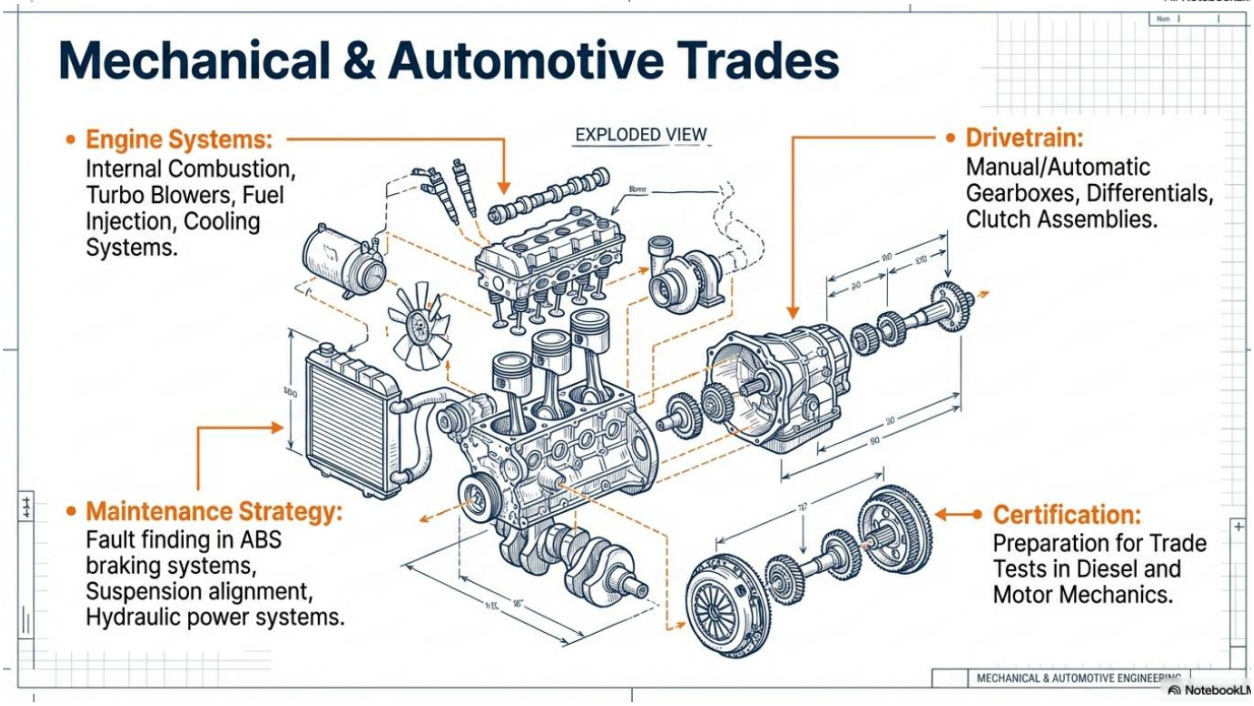
Curriculum Alignment:
Nated (N1–N6) & NCV

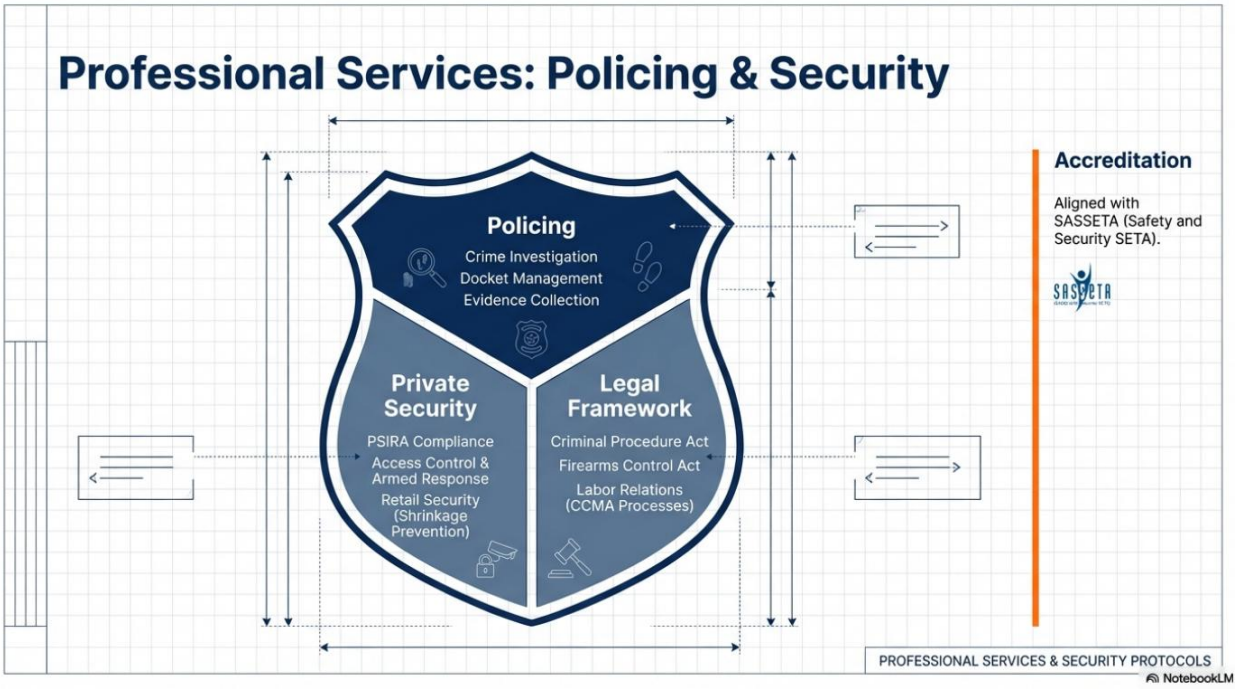
Module Type	Core Subjects
Theoretical	Electrical Trade Theory, Industrial Electronics, Mathematics
Technical	Engineering Science, Logic Systems, Transformers (AC/DC)

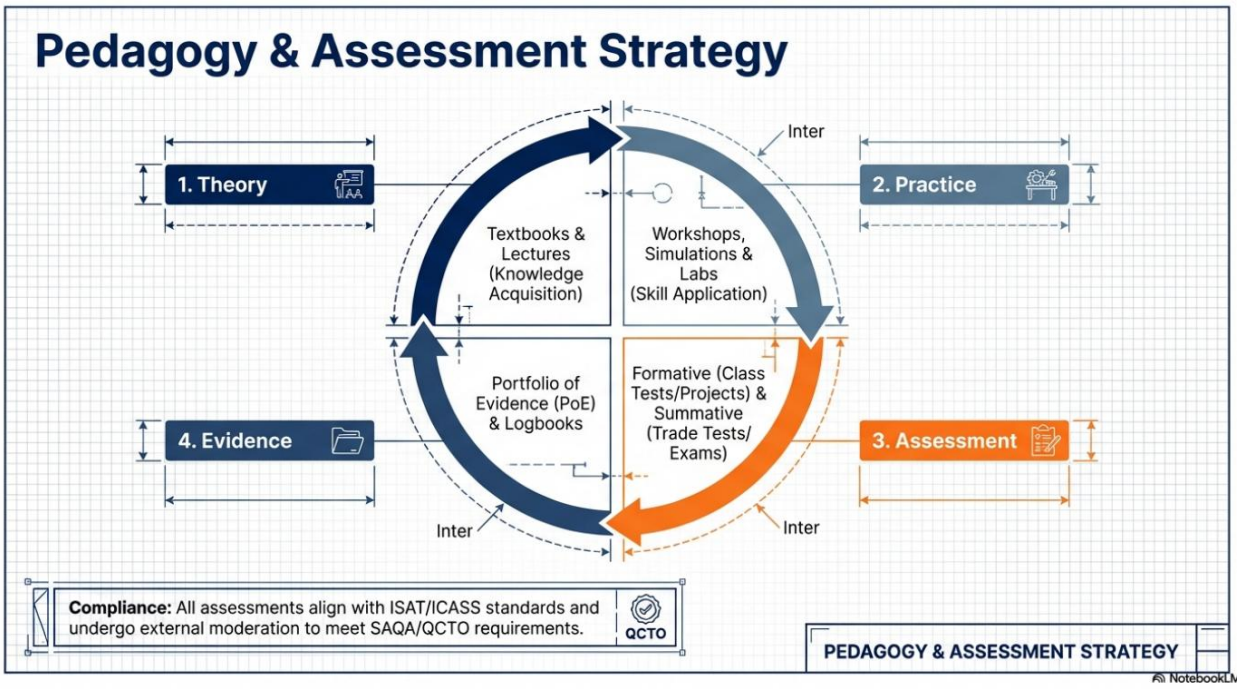


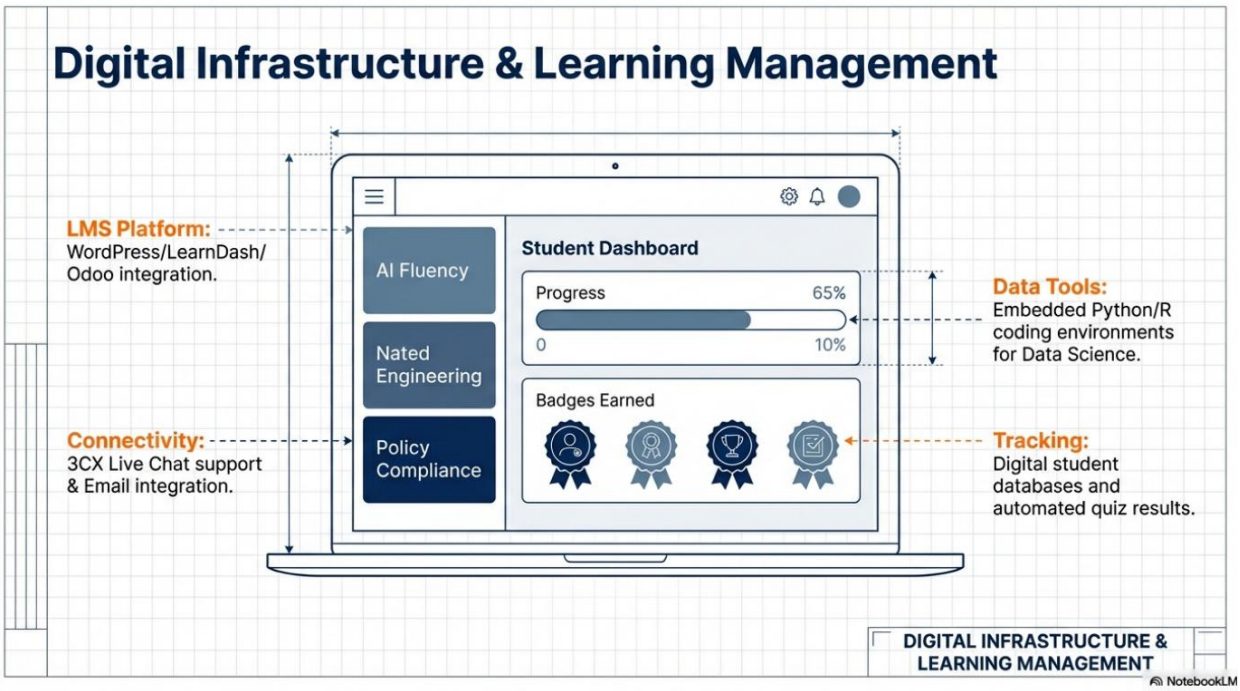
NotebookLM

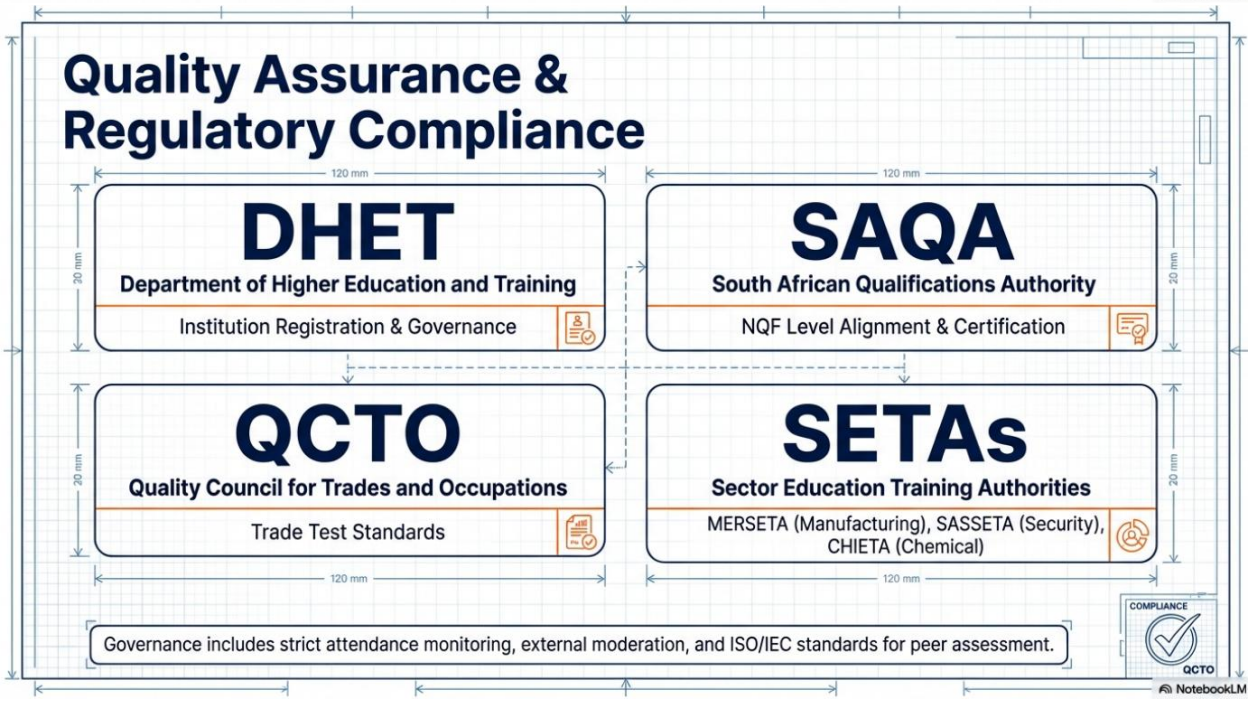

Sector Focus: Mining & Industrial Operations
Governance: Mining and Minerals Sector Authority (MQA)
Critical Occupational Skills: Riggers, Boilermakers, Artisans, Mining Engineers.
Technical Focus: Rock Engineering, Mineral Processing.
Innovation Layer: Nanotechnology Integration: Nanosensors for gas detection and safety monitoring.
Regulatory: Strict adherence to Mine Health and Safety Act (MHSA).
Elevator
Ventilation Duct
Exhaust Fan
Active Working Face
Haulage
Airflow Fan
Airflow Direction
19.80
4.80
4.90
MINE INFRASTRUCTURE & SAFETY PROTOCOLS
NotebookLM

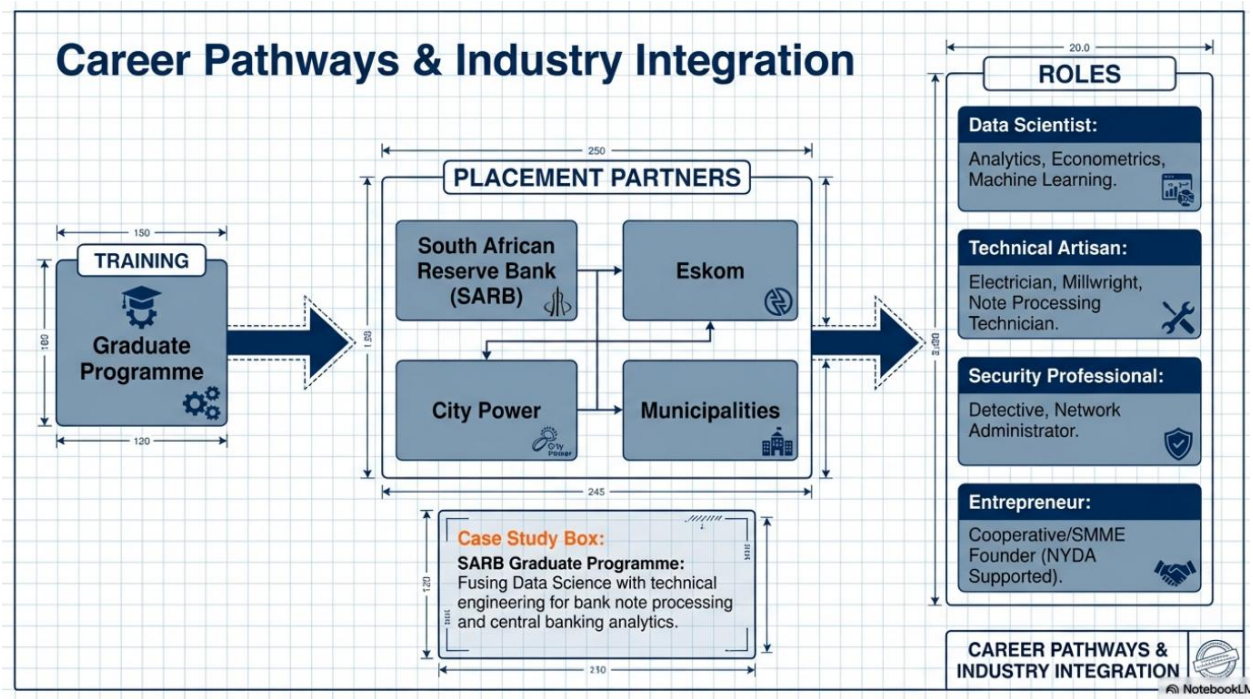

Mechanical & Automotive Trades
EXPLODED VIEW
Engine Systems: Internal Combustion, Turbo Blowers, Fuel Injection, Cooling Systems.
Drivetrain: Manual/Automatic Gearboxes, Differentials, Clutch Assemblies.
Maintenance Strategy: Fault finding in ABS braking systems, Suspension alignment, Hydraulic power systems.
Certification: Preparation for Trade Tests in Diesel and Motor Mechanics.
MECHANICAL & AUTOMOTIVE ENGINEERING
NotebookLM

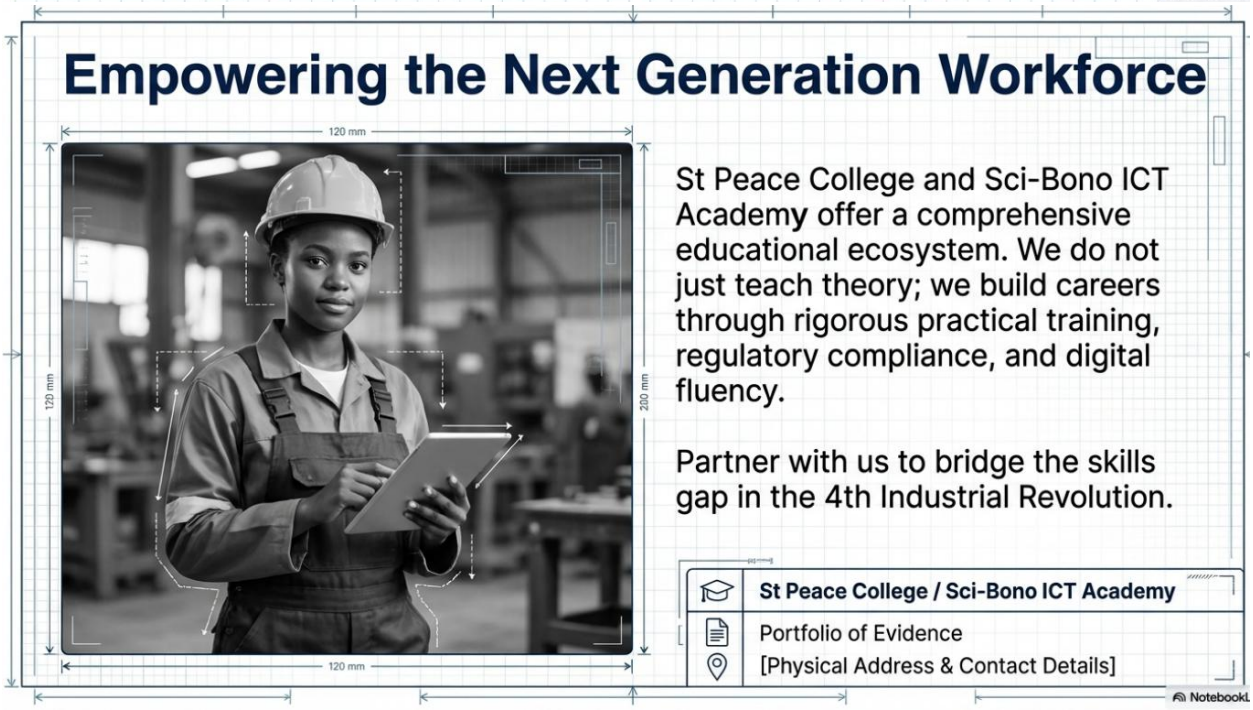

Professional Services: Policing & Security
Policing
Crime Investigation
Docket Management
Evidence Collection
Private Security
PSIRA Compliance
Access Control & Armed Response
Retail Security (Shrinkage Prevention)
Legal Framework
Criminal Procedure Act
Firearms Control Act
Labor Relations (CCMA Processes)
Accreditation
Aligned with SASSETA (Safety and Security SETA).
PROFESSIONAL SERVICES & SECURITY PROTOCOLS
NotebookLM

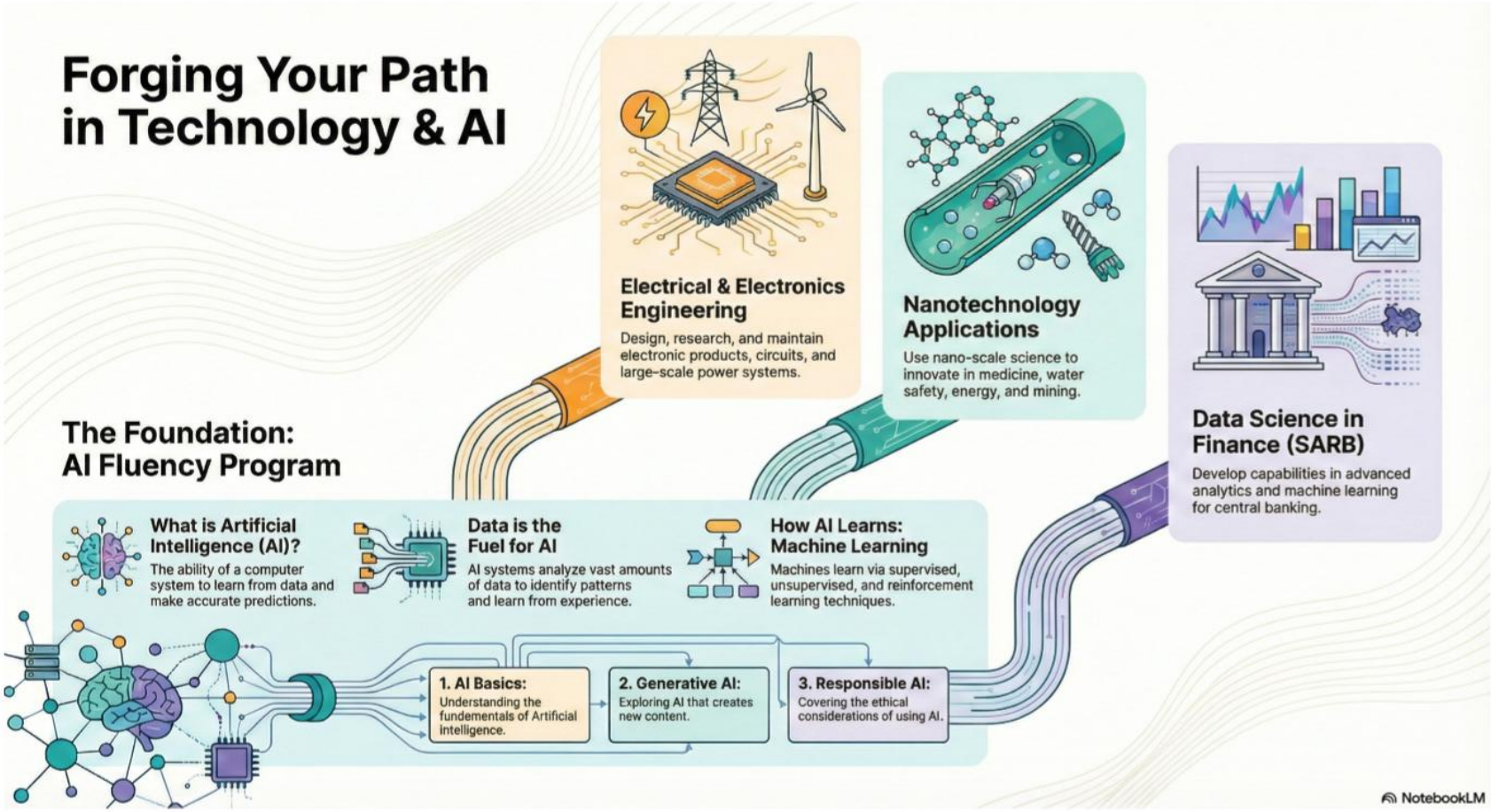

Pedagogy & Assessment Strategy
1. Theory
2. Practice
3. Assessment
4. Evidence
Textbooks & Lectures (Knowledge Acquisition)
Workshops, Simulations & Labs (Skill Application)
Formative (Class Tests/Projects) & Summative (Trade Tests/ Exams)
Portfolio of Evidence (PoE) & Logbooks
Inter
Inter
Inter
Inter
Compliance: All assessments align with ISAT/ICASS standards and undergo external moderation to meet SAQA/QCTO requirements.
QCTO
PEDAGOGY & ASSESSMENT STRATEGY
NotebookLM


Digital Infrastructure & Learning Management
LMS Platform:
WordPress/LearnDash/
Odoo integration.
Connectivity:
3CX Live Chat support
& Email integration.
AI Fluency
Nated Engineering
Policy Compliance
Student Dashboard
Progress
65%
0
10%
Badges Earned
Data Tools:
Embedded Python/R
coding environments
for Data Science.
Tracking:
Digital student
databases and
automated quiz results.
DIGITAL INFRASTRUCTURE & LEARNING MANAGEMENT
NotebookLM


Quality Assurance & Regulatory Compliance
DHET
Department of Higher Education and Training
Institution Registration & Governance
SAQA
South African Qualifications Authority
NQF Level Alignment & Certification
QCTO
Quality Council for Trades and Occupations
Trade Test Standards
SETAs
Sector Education Training Authorities
MERSETA (Manufacturing), SASSETA (Security), CHIETA (Chemical)
Governance includes strict attendance monitoring, external moderation, and ISO/IEC standards for peer assessment.
COMPLIANCE
QCTO
NotebookLM


Career Pathways & Industry Integration
TRAINING
Graduate Programme
PLACEMENT PARTNERS
South African Reserve Bank (SARB)
Eskom
City Power
Municipalities
ROLES
Data Scientist:
Analytics, Econometrics, Machine Learning.
Technical Artisan:
Electrician, Millwright, Note Processing Technician.
Security Professional:
Detective, Network Administrator.
Entrepreneur:
Cooperative/SMME Founder (NYDA Supported).
Case Study Box:
SARB Graduate Programme:
Fusing Data Science with technical engineering for bank note processing and central banking analytics.
CAREER PATHWAYS & INDUSTRY INTEGRATION

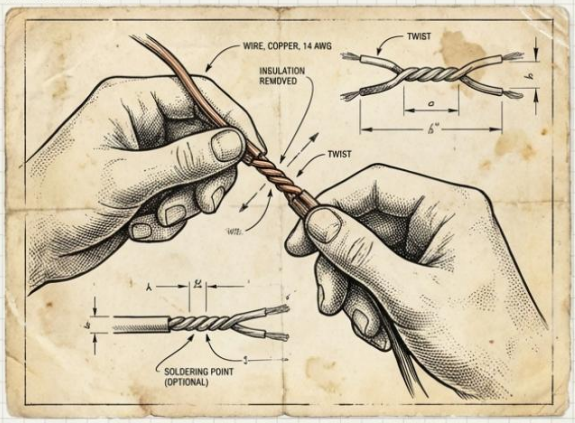

Empowering the Next Generation Workforce
St Peace College and Sci-Bono ICT Academy offer a comprehensive educational ecosystem. We do not just teach theory; we build careers through rigorous practical training, regulatory compliance, and digital fluency.
Partner with us to bridge the skills gap in the 4th Industrial Revolution.
St Peace College / Sci-Bono ICT Academy
Portfolio of Evidence
[Physical Address & Contact Details]


Forging Your Path in Technology & AI
Electrical & Electronics Engineering
Design, research, and maintain electronic products, circuits, and large-scale power systems.
Nanotechnology Applications
Use nano-scale science to innovate in medicine, water safety, energy, and mining.
Data Science in Finance (SARB)
Develop capabilities in advanced analytics and machine learning for central banking.
The Foundation: AI Fluency Program
What is Artificial Intelligence (AI)?
The ability of a computer system to learn from data and make accurate predictions.
Data is the Fuel for AI
AI systems analyze vast amounts of data to identify patterns and learn from experience.
How AI Learns: Machine Learning
Machines learn via supervised, unsupervised, and reinforcement learning techniques.
1. AI Basics:
Understanding the fundementals of Artificial intelligence.
2. Generative AI:
Exploring AI that creates new content.
3. Responsible AI:
Covering the ethical considerations of using AI.
NotebookLM

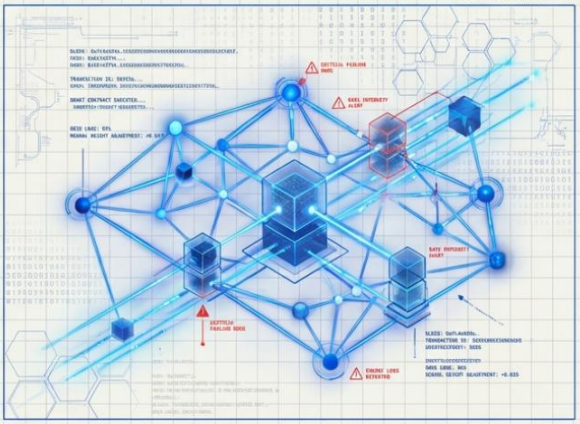
THE EVOLVING TECHNICIAN: FROM WORKBENCH TO BLOCKCHAIN

An investigation into the "Industry 4.0" skillset through the lens of the Shingbe Enterprise Dossier.

THE WORKBENCH



THE BLOCKCHAIN



Synthesis of Technical Evolution & Case Study Analysis

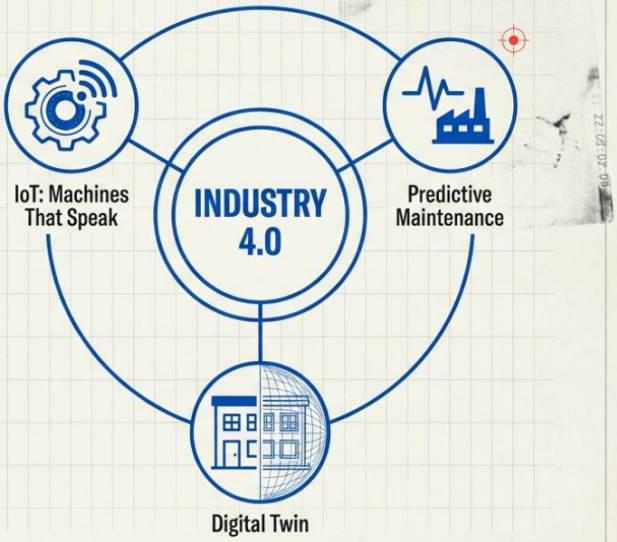
NotebookLM

Forensic Architectural Technical Cream

THE NEW INDUSTRIAL REALITY IS CYBER-PHYSICAL

The Shift: We have moved beyond simple mechanics. The journey leads from the workshop bench to the heart of a smart, automated world.

The Technology:
- IoT (Internet of Things): Machines that speak to each other.
- Predictive Maintenance: Equipment that signals distress before failure.
- Digital Twins: Factories built and tested in virtual reality.



Source Reference: The Evolving Technician

NotebookLM

Forensic Architectural Technical Cream

THE LANGUAGE OF MODERN INDUSTRY

Artificial Intelligence
Optimizing flow and diagnostics in real-time.

Cloud Computing
Allowing disparately located systems to communicate instantly.

Blockchain
Securing supply chains and verifying high-value components.

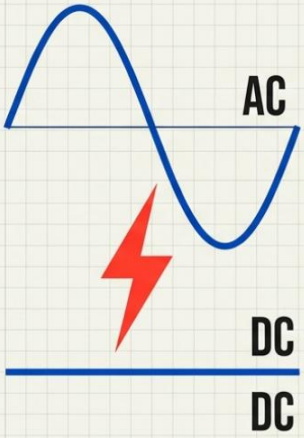
Cybersecurity
The 'Lock' on the system. A network bug is now as dangerous as a frayed wire.

Source Reference: The Evolving Technician

NotebookLM

DIGITAL WIZARDRY REQUIRES PHYSICAL MASTERY

Forensic Architectural Technical Cream



Safety First: Understanding the difference between a Class A (wood) and Class E (electrical) fire is life-saving knowledge.

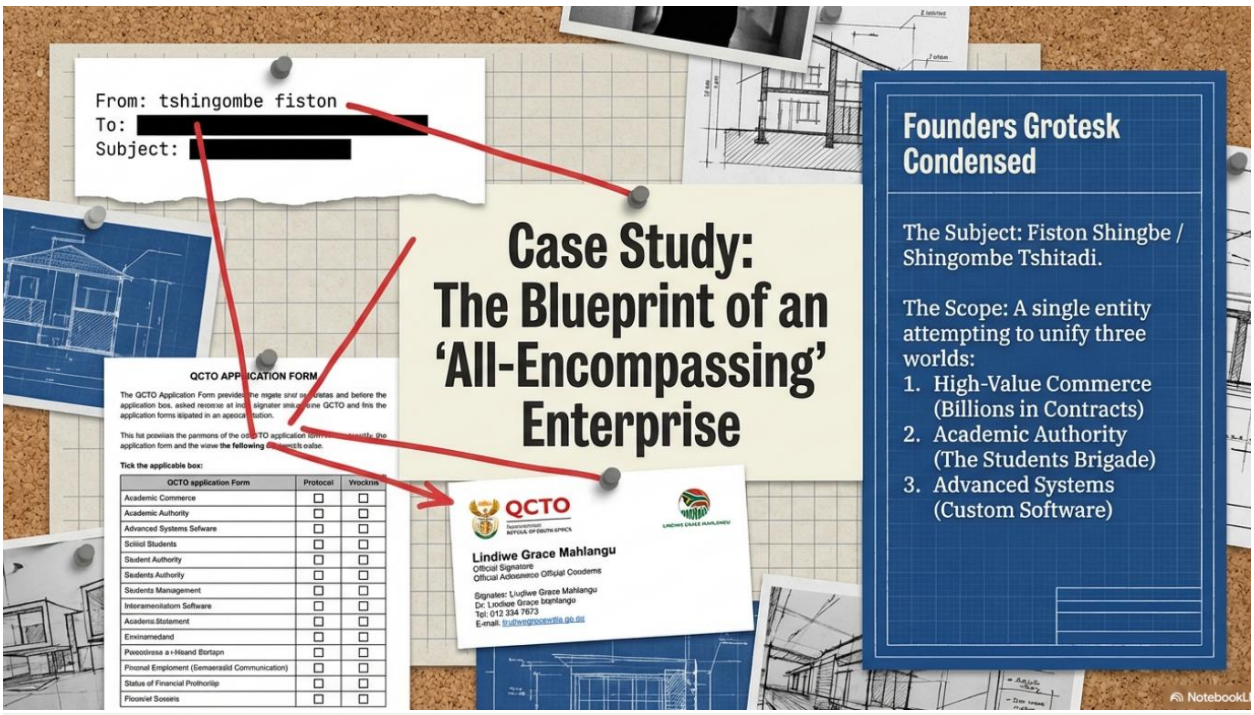
The AC/DC Battle: The grid relies on AC for transmission, while control logic relies on DC.

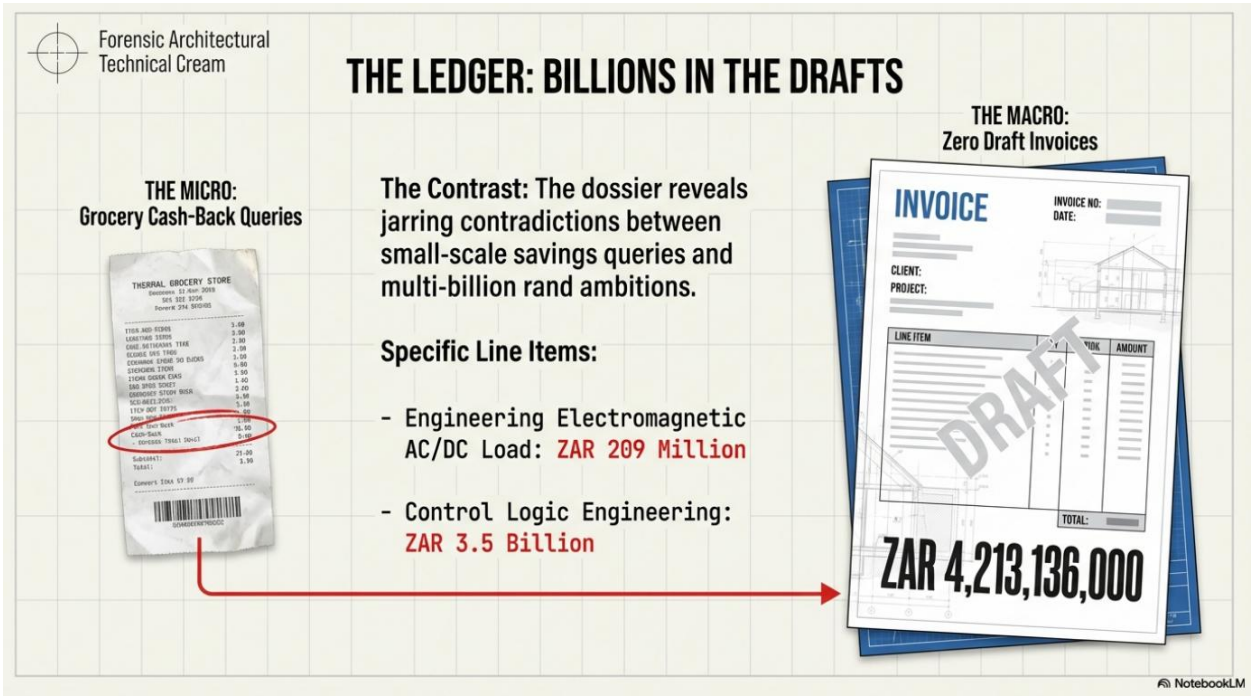
Circuit Theory: Every complex AI-driven grid is still, at its core, a combination of series and parallel circuits.

Precision: The difference between a "Bastard file" and a "Dead smooth file" determines success.

Source Reference: The Evolving Technician

NotebookLM


From: tshingombe fiston
To: [redacted]
Subject: [redacted]
Case Study: The Blueprint of an 'All-Encompassing' Enterprise
QCTO APPLICATION FORM
QCTO application Form
Protocol
Academic Commerce
Academic Authority
Advanced Systems Sefware
Scilicl Students
Student Authority
Sedents Authority
Sedents Management
Interamenitatorn Sofware
Academs.Stotement
Einnamedand
Pwoodrese a+Hiand Bortapn
Pinonel Emplement (Eemaerasild Communication)
Status of Financial Prothorilip
Pioonlet Sosseis
QCTO
Lindiwe Grace Mahlangu
Official Signatore
Tel: 012 334 7673
Founders Grotesk Condensed
The Subject: Fiston Shingbe / Shingombe Tshitadi.
The Scope: A single entity attempting to unify three worlds:
1. High-Value Commerce (Billions in Contracts)
2. Academic Authority (The Students Brigade)
3. Advanced Systems (Custom Software)
NotebookLM


Forensic Architectural Technical Cream
THE LEDGER: BILLIONS IN THE DRAFTS
THE MICRO: Grocery Cash-Back Queries
THERRAL GROCERY STORE
THE MACRO: Zero Draft Invoices
The Contrast: The dossier reveals jarring contradictions between small-scale savings queries and multi-billion rand ambitions.
Specific Line Items:
- Engineering Electromagnetic AC/DC Load: ZAR 209 Million
- Control Logic Engineering: ZAR 3.5 Billion
INVOICE
INVOICE NO:
DATE:
CLIENT:
PROJECT:
LINE ITEM
AMOUNT
DRAFT
TOTAL:
ZAR 4,213,136,000
NotebookLM

The Lecture Hall: Bureaucracy as a Building Block

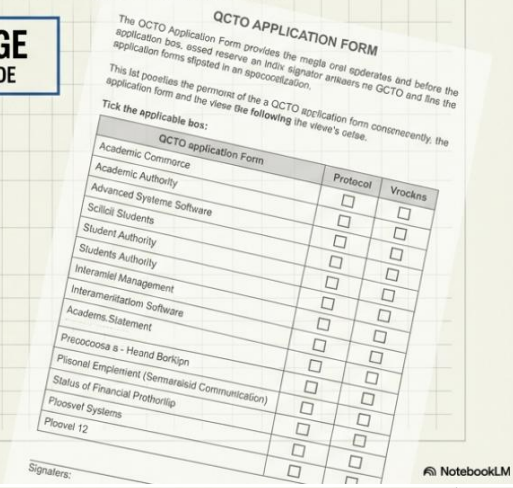
The Structure: A paramilitary educational hierarchy designed to mint professionals.
The Compliance: A relentless push for official accreditation (NQF Levels 5-7).
The Friction: Demands for "verbatim sworn translations" and intense regulatory paperwork.

ST. PEACE COLLEGE
ACADEMIC STUDENTS BRIGADE

- Level 1
- Level 2
- Level 3
- Level 4
- Level 5
- Level 6
- Level 7
- Level 8
- Level 9
- Level 10
- Level 11
- Level 12

Regulatory Bodies

- **QCTO**
- **SAQA**
- **DHET**
- **Economic Reconstruction and Recovery Plan**


QCTO APPLICATION FORM

The QCTO Application Form provides the megte orel epderates and before the application bos. essed reserve an Indix signator arrkeers ne QCTO and fins the application forms efpsted in an spococetization.

This lat poeetias the permoirst of the a QCTO application form consceneently, the application form and the viese the following the vieve's oetse.

Tick the applicable bos:

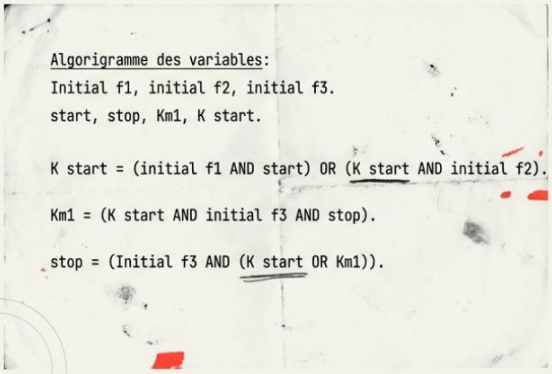
QCTO application Form	Protocol	Vrockns
Academic Commerce	☐	☐
Academic Authority	☐	☐
Advanced Systeme Software	☐	☐
Scilicli Students	☐	☐
Student Authority	☐	☐
Siudents Authority	☐	☐
Interamiel Management	☐	☐
Interameritatiom Software	☐	☐
Academs.Statement	☐	☐
Precococsa s - Heand Borkipn	☐	☐
Plisonel Emplenient (Semarelsid Communication)	☐	☐
Status of Financial Prothortip	☐	☐
Ploosvel Systems	☐	☐
Ploovel 12	☐	☐

Signaters:

NotebookLM

THE LOGIC GATE: TRANSLATING PHYSICS TO ALGORITHMS

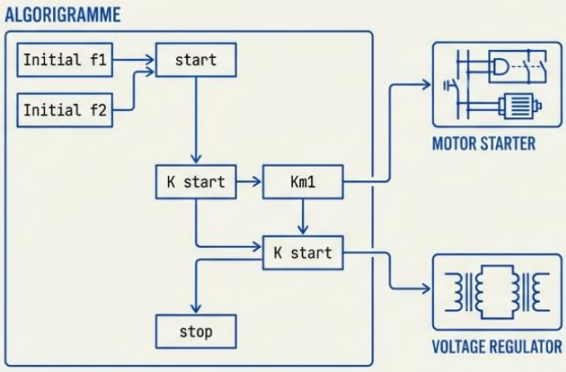
Hard Engineering: Documents demonstrate expertise in voltage regulation (22kV/33kV) and SANS 10142 compliance.
Algorithmic Control: Complex boolean equations used to automate industrial motor starters.
The Bridge: Physical requirements are translated into operational algorithms here.


Algorigramme des variables:
Initial f1, initial f2, initial f3.
start, stop, Km1, K start.

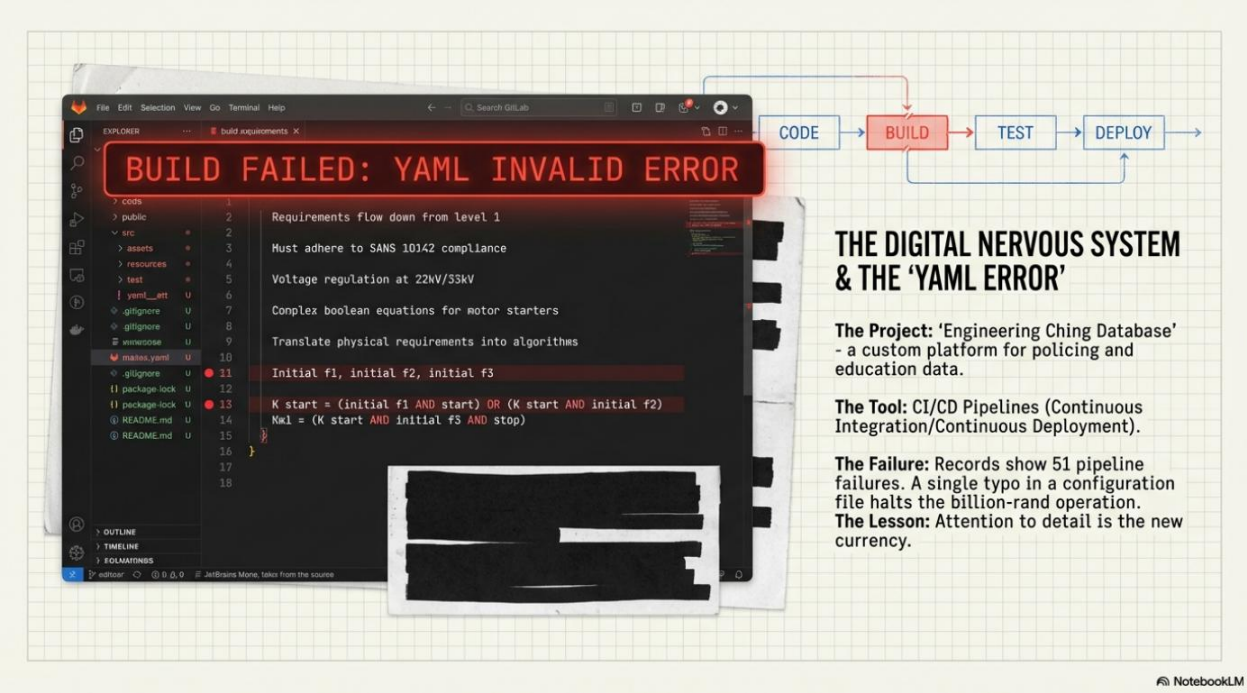
K start = (initial f1 AND start) OR (K start AND initial f2).

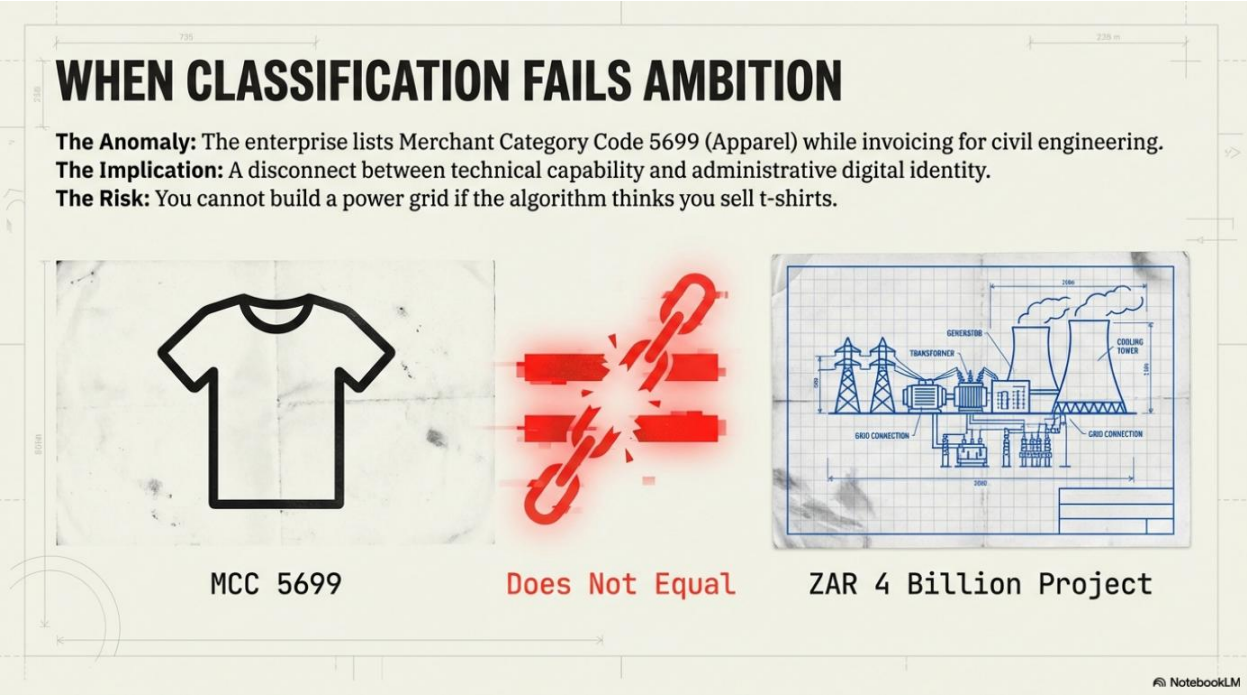
Km1 = (K start AND initial f3 AND stop).

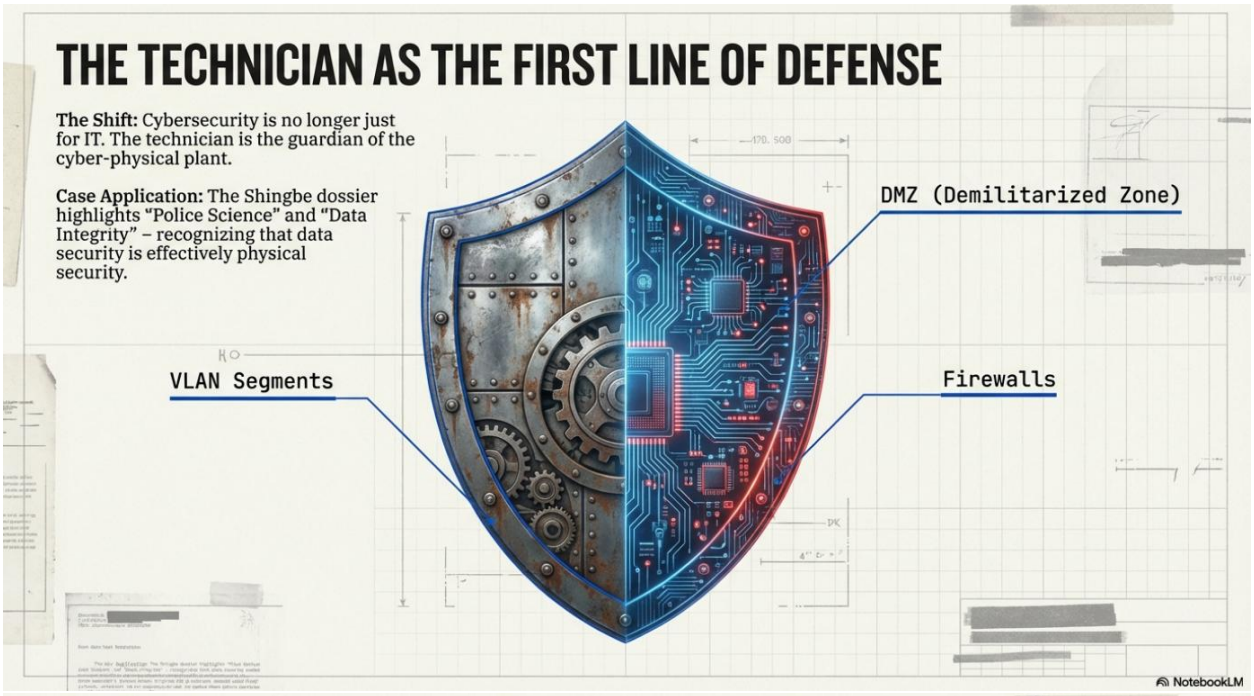
stop = (Initial f3 AND (K start OR Km1)).

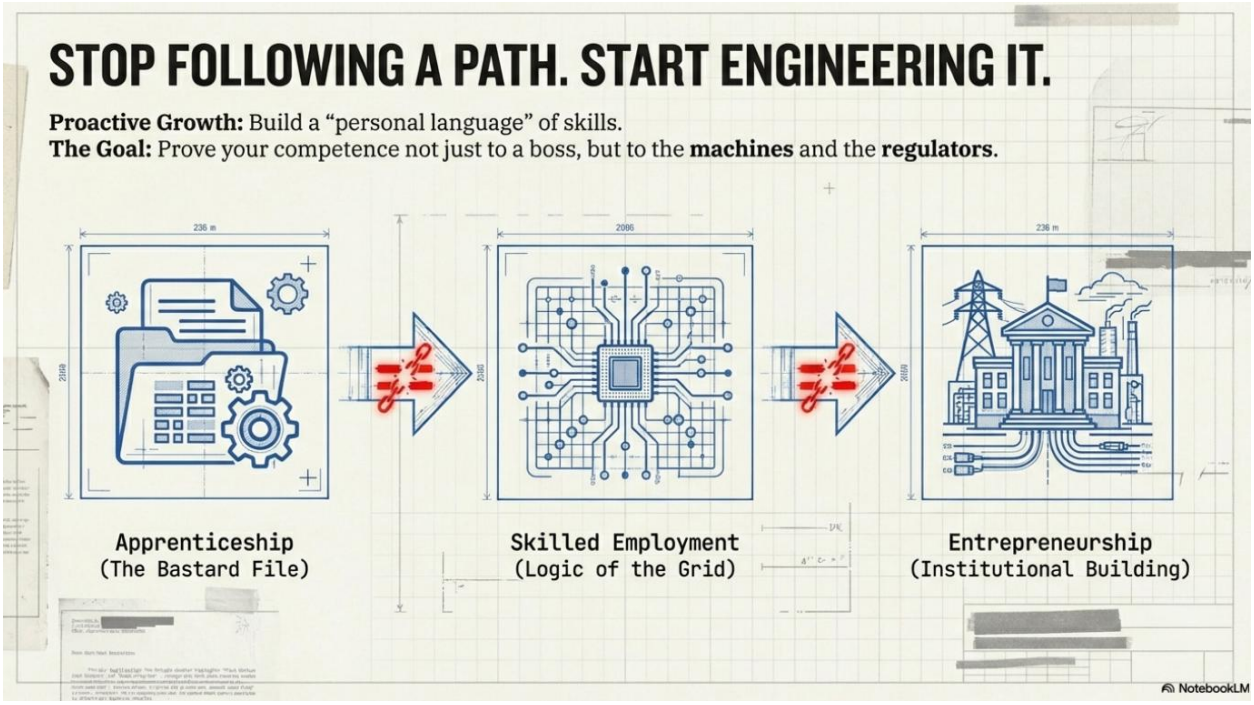


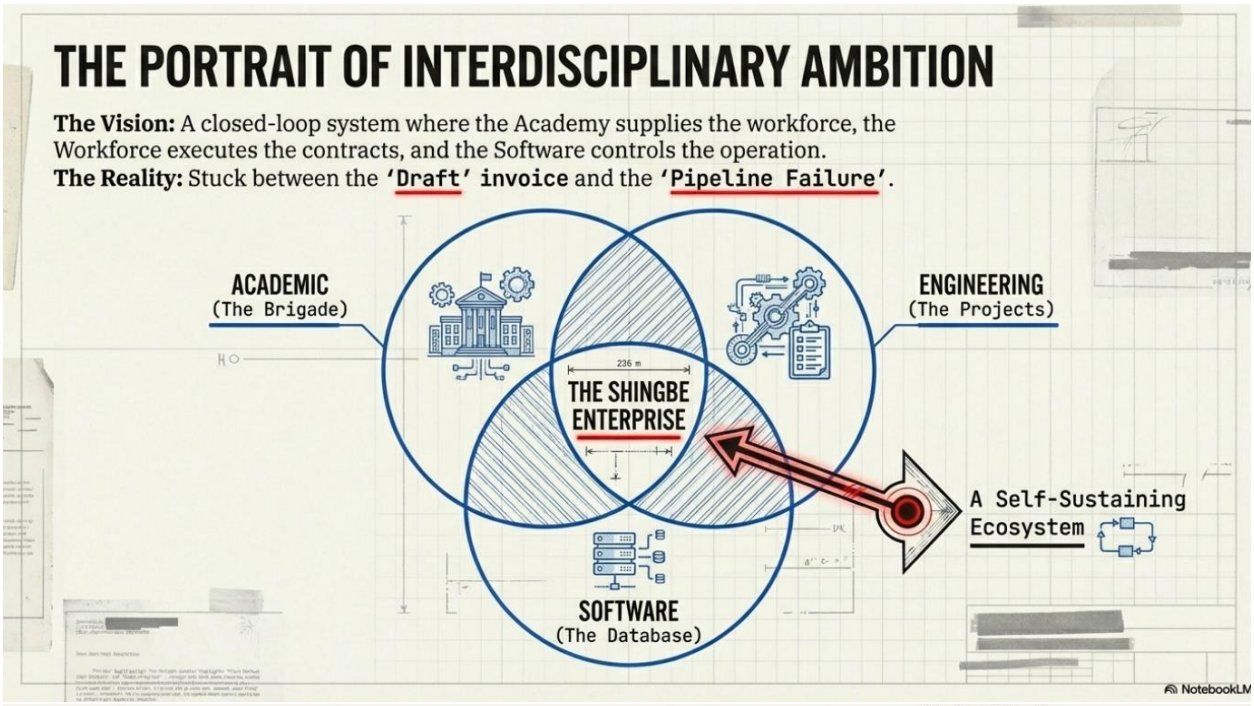
NotebookLM

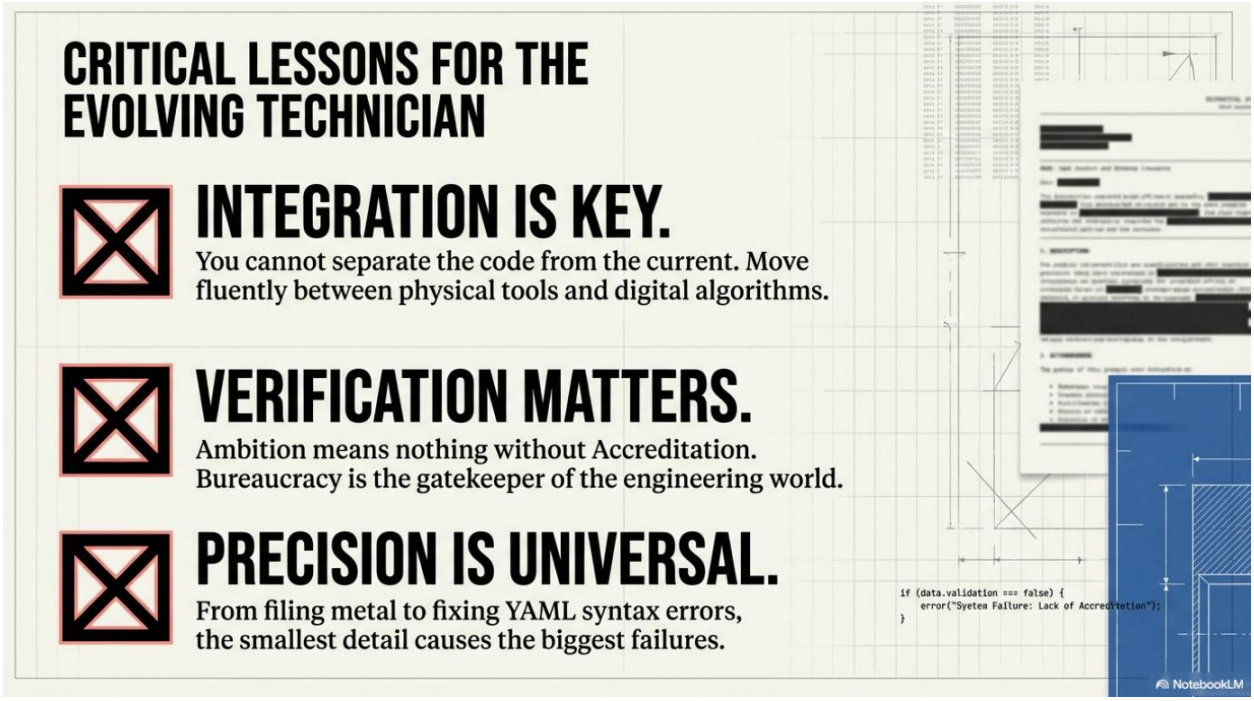

BUILD FAILED: YAML INVALID ERROR
CODE
BUILD
TEST
DEPLOY
Requirements flow down from level 1
Must adhere to SANS 10142 compliance
Voltage regulation at 22kV/33kV
Complex boolean equations for motor starters
Translate physical requirements into algorithms
Initial f1, initial f2, initial f3
THE DIGITAL NERVOUS SYSTEM & THE 'YAML ERROR'
The Project: 'Engineering Ching Database' - a custom platform for policing and education data.
The Tool: CI/CD Pipelines (Continuous Integration/Continuous Deployment).
The Failure: Records show 51 pipeline failures. A single typo in a configuration file halts the billion-rand operation.
The Lesson: Attention to detail is the new currency.
NotebookLM

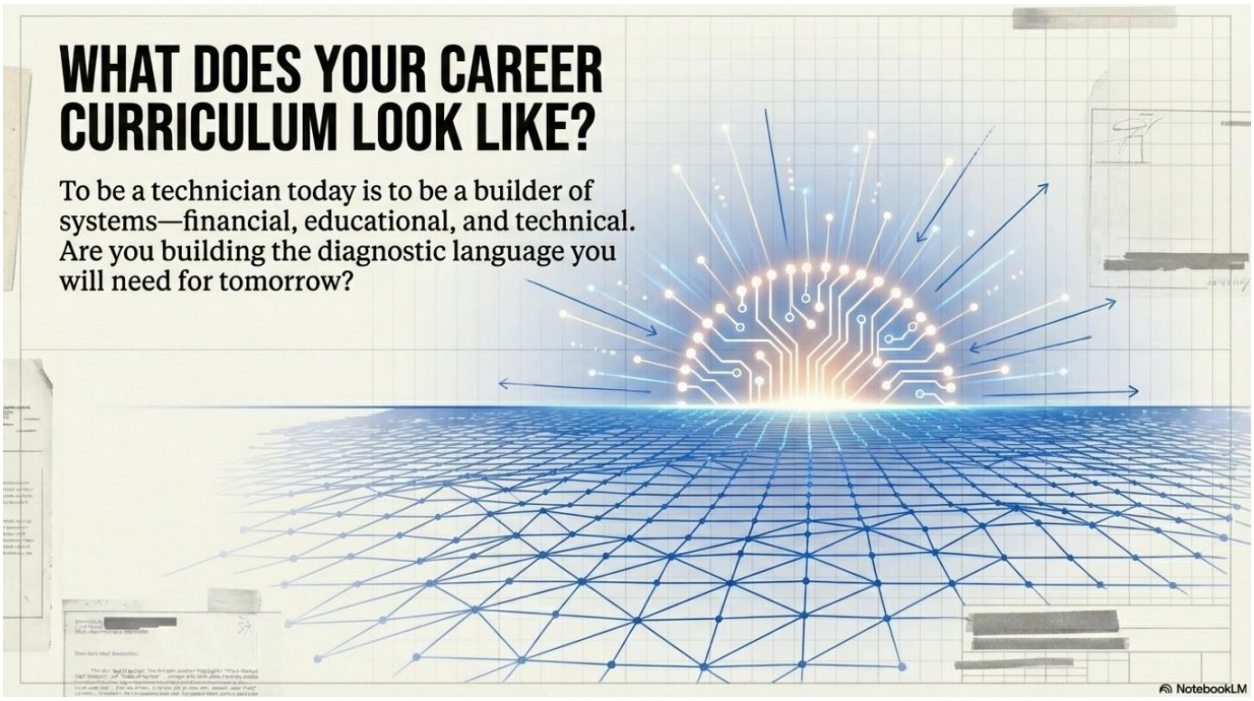

WHEN CLASSIFICATION FAILS AMBITION
The Anomaly: The enterprise lists Merchant Category Code 5699 (Apparel) while invoicing for civil engineering.
The Implication: A disconnect between technical capability and administrative digital identity.
The Risk: You cannot build a power grid if the algorithm thinks you sell t-shirts.
MCC 5699
Does Not Equal
ZAR 4 Billion Project
NotebookLM

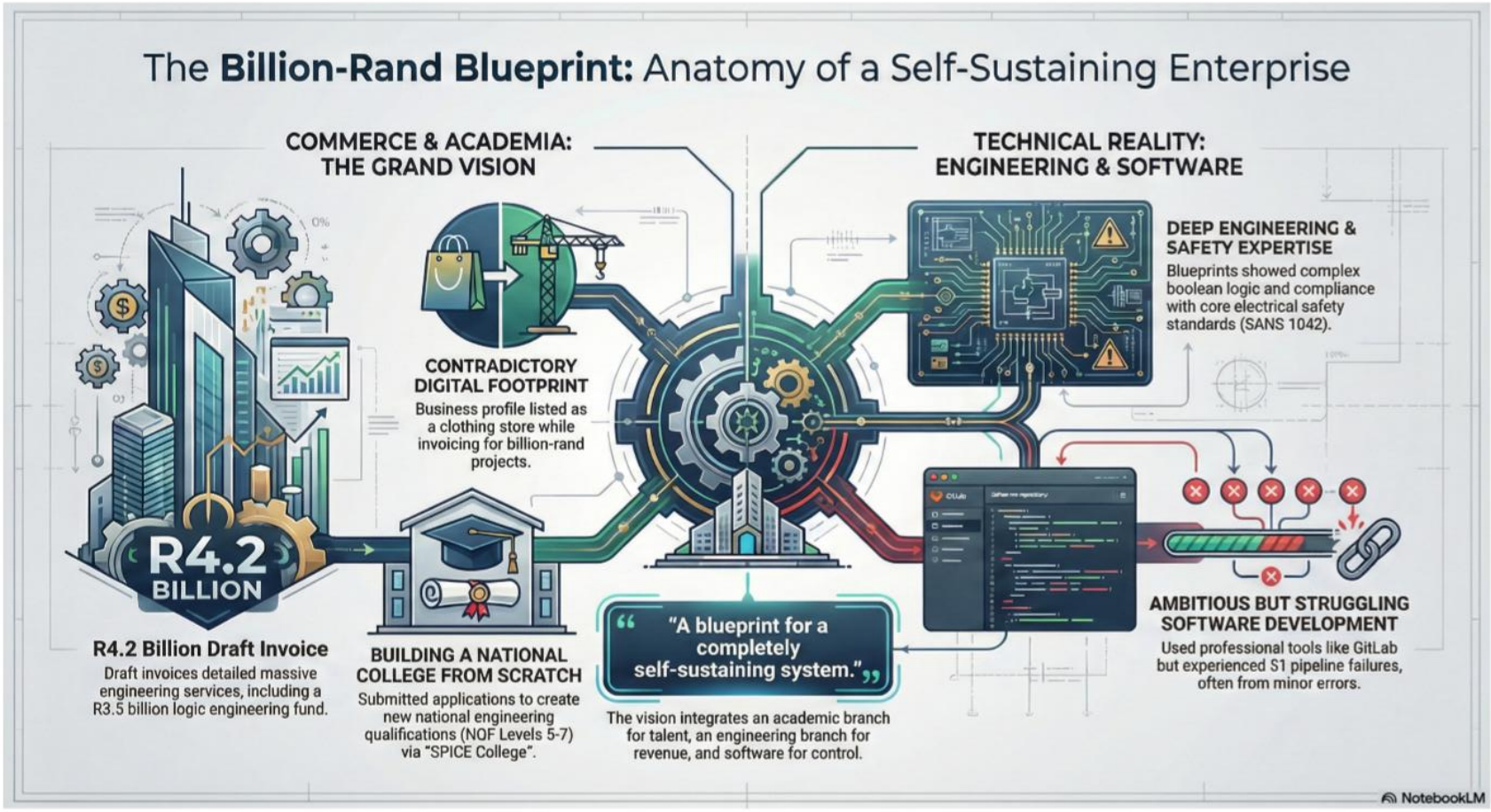

THE TECHNICIAN AS THE FIRST LINE OF DEFENSE
The Shift: Cybersecurity is no longer just for IT. The technician is the guardian of the cyber-physical plant.
Case Application: The Shingbe dossier highlights "Police Science" and "Data Integrity" – recognizing that data security is effectively physical security.
DMZ (Demilitarized Zone)
VLAN Segments
Firewalls
NotebookLM

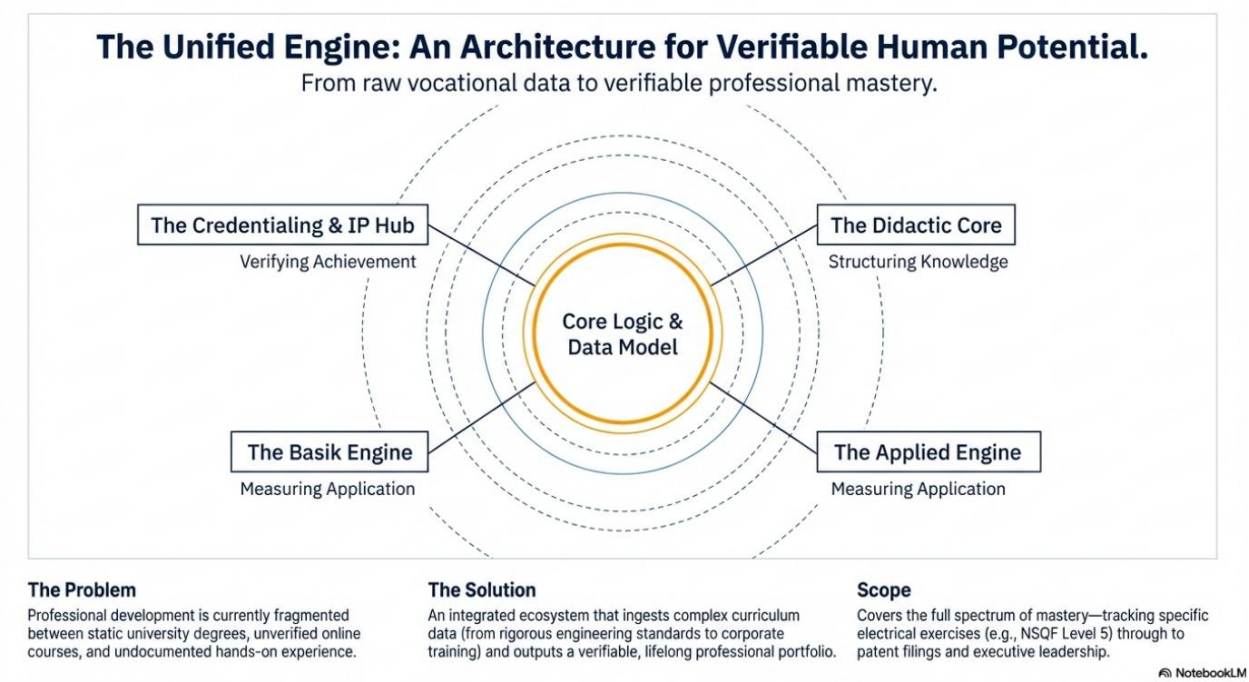

STOP FOLLOWING A PATH. START ENGINEERING IT.
Proactive Growth: Build a "personal language" of skills.
The Goal: Prove your competence not just to a boss, but to the machines and the regulators.
Apprenticeship
(The Bastard File)
Skilled Employment
(Logic of the Grid)
Entrepreneurship
(Institutional Building)
NotebookLM

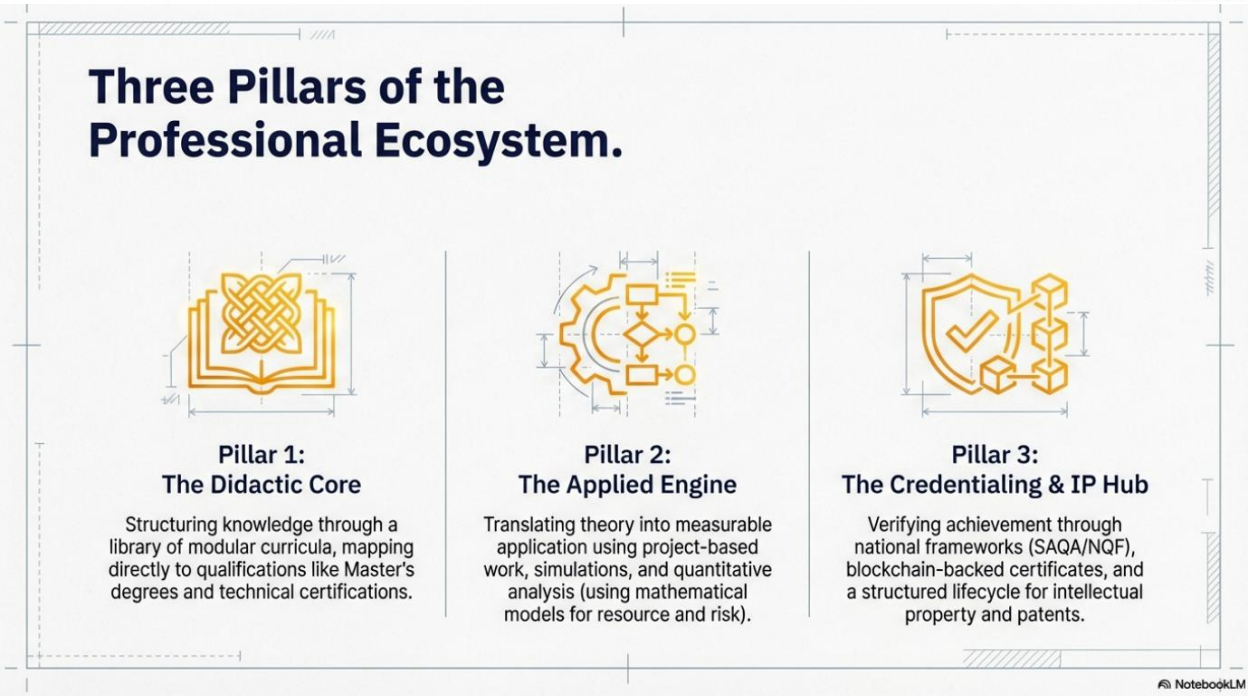

THE PORTRAIT OF INTERDISCIPLINARY AMBITION
The Vision: A closed-loop system where the Academy supplies the workforce, the Workforce executes the contracts, and the Software controls the operation.
The Reality: Stuck between the 'Draft' invoice and the 'Pipeline Failure'.
ACADEMIC
(The Brigade)
ENGINEERING
(The Projects)
THE SHINGBE ENTERPRISE
SOFTWARE
(The Database)
A Self-Sustaining Ecosystem
NotebookLM


CRITICAL LESSONS FOR THE EVOLVING TECHNICIAN
INTEGRATION IS KEY.
You cannot separate the code from the current. Move fluently between physical tools and digital algorithms.
VERIFICATION MATTERS.
Ambition means nothing without Accreditation. Bureaucracy is the gatekeeper of the engineering world.
PRECISION IS UNIVERSAL.
From filing metal to fixing YAML syntax errors, the smallest detail causes the biggest failures.
if (data.validation === false) {
error("Syetem Failure: Lack of Accreditation");
}
NotebookLM


WHAT DOES YOUR CAREER CURRICULUM LOOK LIKE?
To be a technician today is to be a builder of systems—financial, educational, and technical. Are you building the diagnostic language you will need for tomorrow?
NotebookLM


The Billion-Rand Blueprint: Anatomy of a Self-Sustaining Enterprise
COMMERCE & ACADEMIA: THE GRAND VISION
TECHNICAL REALITY: ENGINEERING & SOFTWARE
R4.2 BILLION
R4.2 Billion Draft Invoice
Draft invoices detailed massive engineering services, including a R3.5 billion logic engineering fund.
CONTRADICTORY DIGITAL FOOTPRINT
Business profile listed as a clothing store while invoicing for billion-rand projects.
BUILDING A NATIONAL COLLEGE FROM SCRATCH
Submitted applications to create new national engineering qualifications (NQF Levels 5-7) via "SPICE College".
"A blueprint for a completely self-sustaining system."
The vision integrates an academic branch for talent, an engineering branch for revenue, and software for control.
DEEP ENGINEERING & SAFETY EXPERTISE
Blueprints showed complex boolean logic and compliance with core electrical safety standards (SANS 1042).
AMBITIOUS BUT STRUGGLING SOFTWARE DEVELOPMENT
Used professional tools like GitLab but experienced S1 pipeline failures, often from minor errors.
NotebookLM


The Unified Engine: An Architecture for Verifiable Human Potential.
From raw vocational data to verifiable professional mastery.
The Credentialing & IP Hub
Verifying Achievement
The Didactic Core
Structuring Knowledge
Core Logic & Data Model
The Basik Engine
Measuring Application
The Applied Engine
Measuring Application
The Problem
Professional development is currently fragmented between static university degrees, unverified online courses, and undocumented hands-on experience.
The Solution
An integrated ecosystem that ingests complex curriculum data (from rigorous engineering standards to corporate training) and outputs a verifiable, lifelong professional portfolio.
Scope
Covers the full spectrum of mastery—tracking specific electrical exercises (e.g., NSQF Level 5) through to patent filings and executive leadership.
NotebookLM


Three Pillars of the Professional Ecosystem.
Pillar 1: The Didactic Core
Structuring knowledge through a library of modular curricula, mapping directly to qualifications like Master's degrees and technical certifications.
Pillar 2: The Applied Engine
Translating theory into measurable application using project-based work, simulations, and quantitative analysis (using mathematical models for resource and risk).
Pillar 3: The Credentialing & IP Hub
Verifying achievement through national frameworks (SAQA/NQF), blockchain-backed certificates, and a structured lifecycle for intellectual property and patents.
NotebookLM

The Didactic Core: Ingesting Rigorous Technical Curricula.

The engine structures complex, multi-hour vocational standards into trackable data modules.

Curriculum Standard: NSQF Level 5

Directorate General of Training | Electrical Sector

Total Practical Hours: 525 Hours

Module 1: Electronic Practice

175 Hours | 15 Exercises

Resistors, Active/Passive Components, Rectifiers.

Module 2: Control Panel Wiring

100 Hours | 5 Exercises

Layout design, assembly of control elements, induction motor control.

Module 3: AC/DC Motor Drives

50 Hours | 3 Exercises

Speed control using thyristors, Universal motor speed controllers.

Module 4: Inverter and UPS

75 Hours | 6 Exercises

Voltage stabilizers, Emergency lighting assembly, Battery chargers.

Module 5: Power Generation

50 Hours | 7 Exercises

Substation layout, Solar panel assembly, Wind power systems.

NotebookLM

The Applied Engine: The Mathematics of Application

Underlying every practical task is a quantifiable mathematical model that tracks time, resources, and efficiency.

Underlying Formulas

1. **Energy Harvested:**

$$E = \int_0^T \frac{1}{2} \rho A v^3 \eta \, dt$$

ρ = Air Density, η = Efficiency

2. **Resource Consumption:**

$$R = \int_0^T r(t) \, dt$$

3. **Project Cost Projection:**

$$C_{\text{total}} = \sum (M_{\text{material}} + H_{\text{human}} + S_{\text{stationery}} + B_{\text{building}})$$

Physical Inputs & Tracking

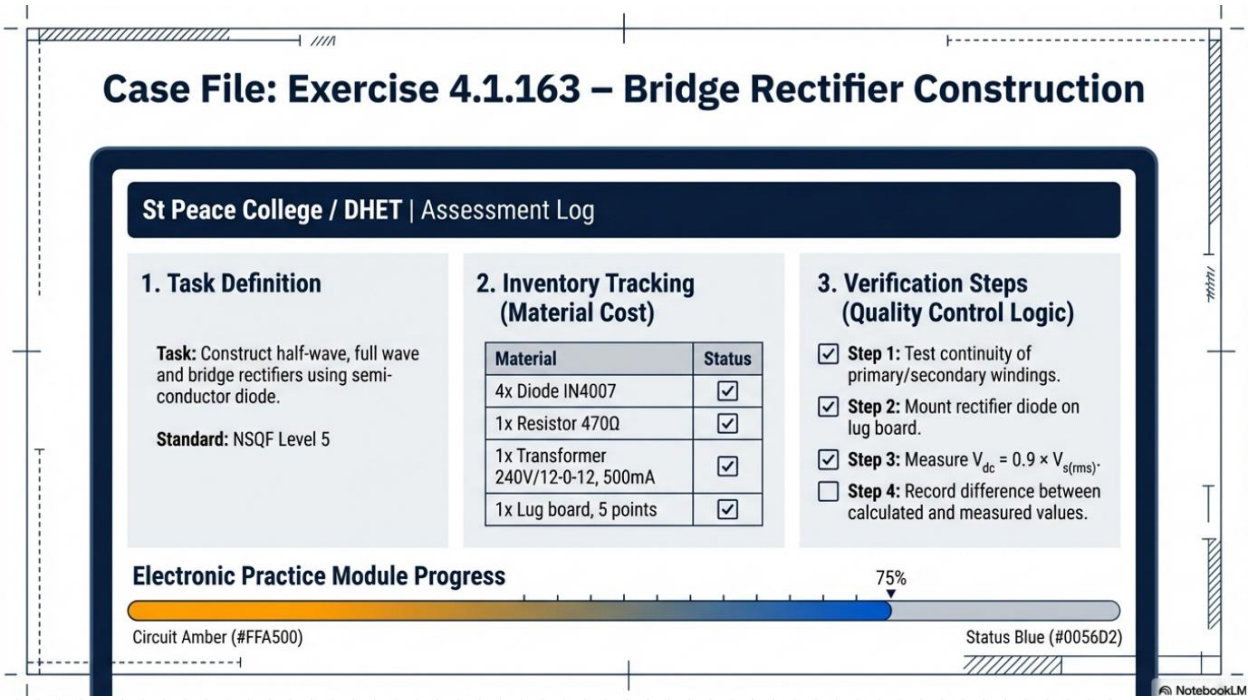
Workshop Duration: 525 Hours (Variable T)

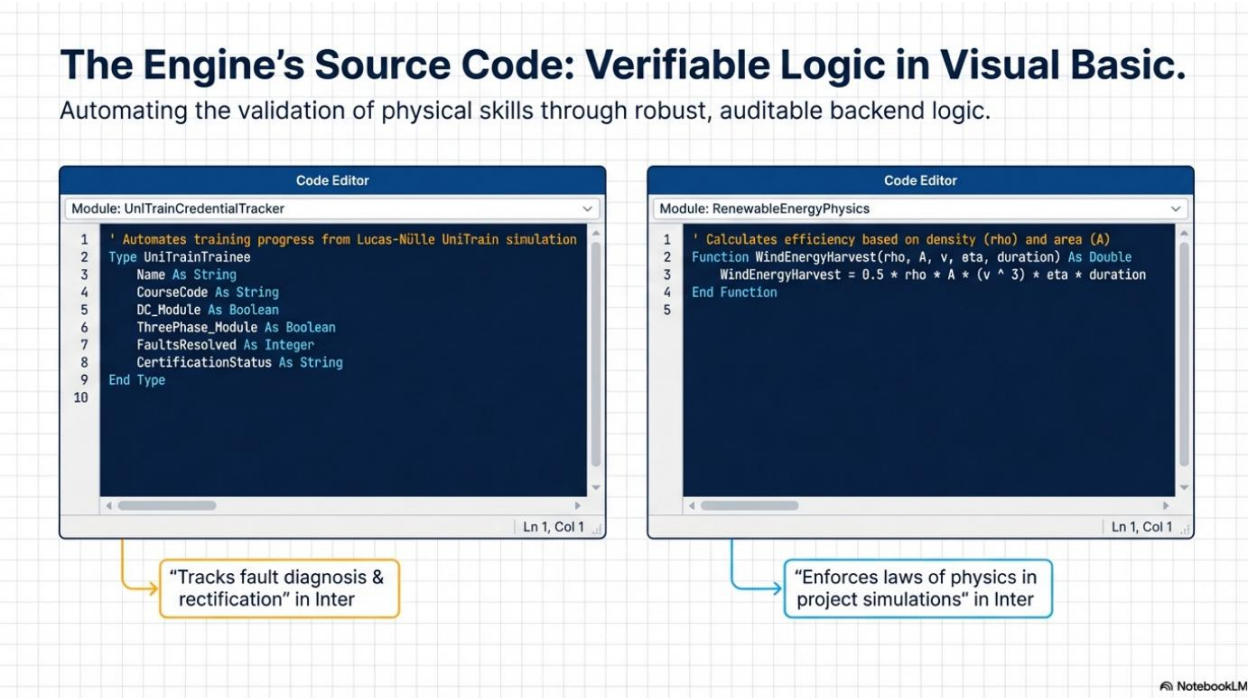
Material Input: 100 turns of 21 SWG Ferrite core

Cabling: 1.5 sq mm copper cable (660V grade)

Power Source: Step-down transformer 240V/12-0-12

NotebookLM


Case File: Exercise 4.1.163 – Bridge Rectifier Construction
St Peace College / DHET | Assessment Log
1. Task Definition
Task: Construct half-wave, full wave and bridge rectifiers using semi-conductor diode.
Standard: NSQF Level 5
2. Inventory Tracking (Material Cost)
Material
Status
4x Diode IN4007
1x Resistor 470Ω
1x Transformer 240V/12-0-12, 500mA
1x Lug board, 5 points
3. Verification Steps (Quality Control Logic)
Step 1: Test continuity of primary/secondary windings.
Step 2: Mount rectifier diode on lug board.
Step 3: Measure $V_{dc} = 0.9 \times V_{s(rms)}$.
Step 4: Record difference between calculated and measured values.
Electronic Practice Module Progress
75%
Circuit Amber (#FFA500)
Status Blue (#0056D2)
NotebookLM


The Engine's Source Code: Verifiable Logic in Visual Basic.
Automating the validation of physical skills through robust, auditable backend logic.
Code Editor
Module: UniTrainCredentialTracker
' Automates training progress from Lucas-Nülle UniTrain simulation
Type UniTrainTrainee
Name As String
CourseCode As String
DC_Module As Boolean
ThreePhase_Module As Boolean
FaultsResolved As Integer
CertificationStatus As String
End Type
Ln 1, Col 1
"Tracks fault diagnosis & rectification" in Inter
Code Editor
Module: RenewableEnergyPhysics
' Calculates efficiency based on density (rho) and area (A)
Function WindEnergyHarvest(rho, A, v, eta, duration) As Double
WindEnergyHarvest = 0.5 * rho * A * (v ^ 3) * eta * duration
End Function
Ln 1, Col 1
"Enforces laws of physics in project simulations" in Inter
NotebookLM

Mapping Competency to National Standards.

Raw Assessment Data

Completed:
Exercise 4.1.175

Task:
Design layout of control cabinet

Institution:
St Peace College

Engine Mapping Logic

SAQA ID 63790: National Certificate: Electrical Engineering (NQF Level 3)

Component	Unit Standard ID	Title	Credits
Core	258963	Install, test and maintain electrical equipment in a hazardous location	10
Core	113924	Install and commission DC and AC machines and control gear	10
Fundamental	119472	Accommodate audience and context needs in communication	5
Elective	259097	Carry out a detailed inspection and repair defects	6

NotebookLM

International Interoperability: The French BTS Standard

The Unified Engine connects applied data to diverse international frameworks.

Professional Activities

- Étude - Conception préliminaire (Preliminary study & design)
- Conception - étude détaillée du projet (Detailed project design)
- Analyse – diagnostic (Analysis – diagnostic)
- Maintenance d'une installation électrique
- Conduite de projet/chantier (Project management)
- Réalisation : installation – intégration

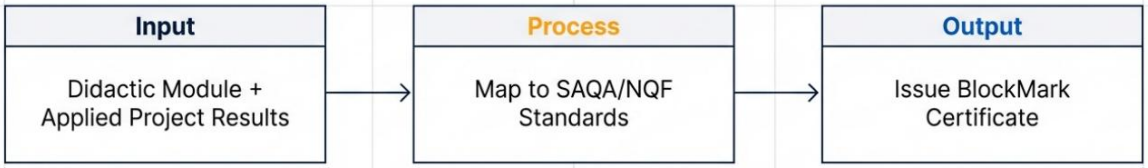
Global Mobility Map

Certified Competencies

- Modéliser le comportement de tout ou partie d'un ouvrage
- Dimensionner les constituants (Dimension components)
- Proposer l'architecture d'un ouvrage
- Gérer et conduire le projet/chantier
- Réaliser un diagnostic de performance

NotebookLM

The Mechanics of Verification: Blockchain-Ready Credentials



BlockMark Certificate Issuance Model

Item	Price (credits)	Paid for by
Issue a certificate with an expiry date	£1 (100) per year	Issuer
Issue a non-expiring certificate	£10 (1000)	Issuer
Issue a CPD folder with a certificate	£1 (100) per year	Issuer
Stamp a hash of an issued certificate on blockchain	£1 (100)*	Issuer

*Coming soon (currently beta-testing)

NotebookLM

From Research to Asset: A Structured Path to Patentability.

Patentability Criteria

1. **Novelty:** Not publicly disclosed before filing.
2. **Utility:** Must function and serve a useful purpose.
3. **Inventive Step:** Not obvious to a skilled professional.

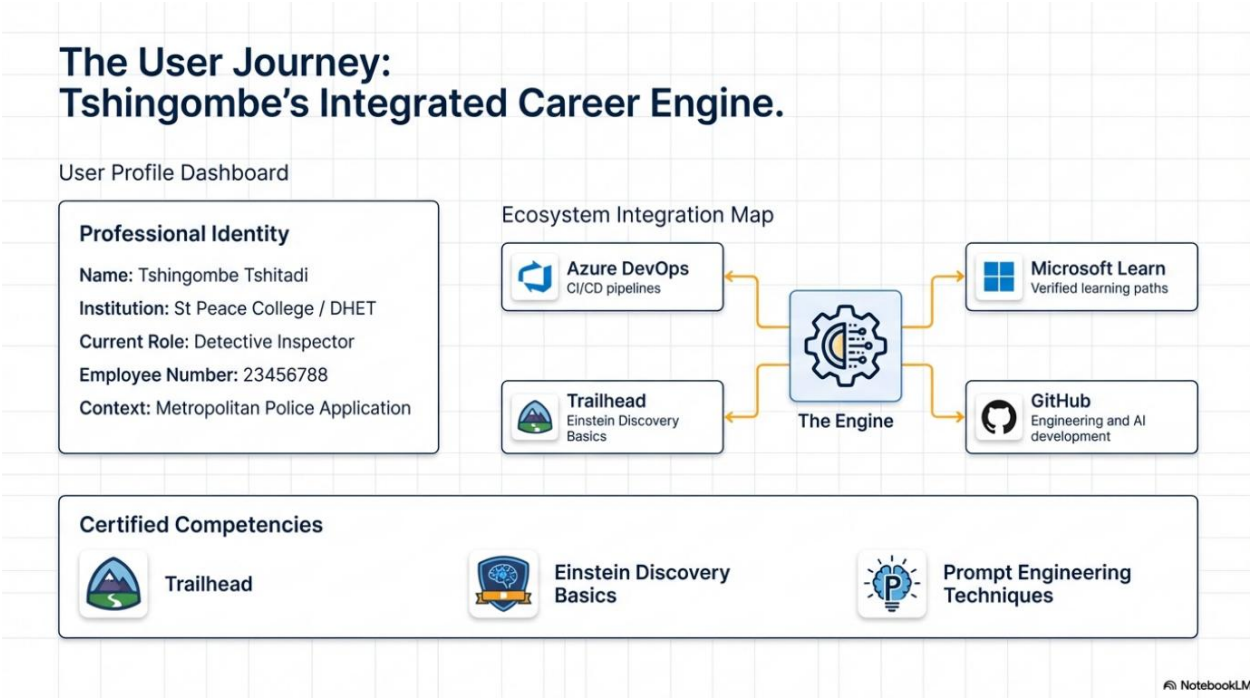
VBA Logic for Patent Tracking

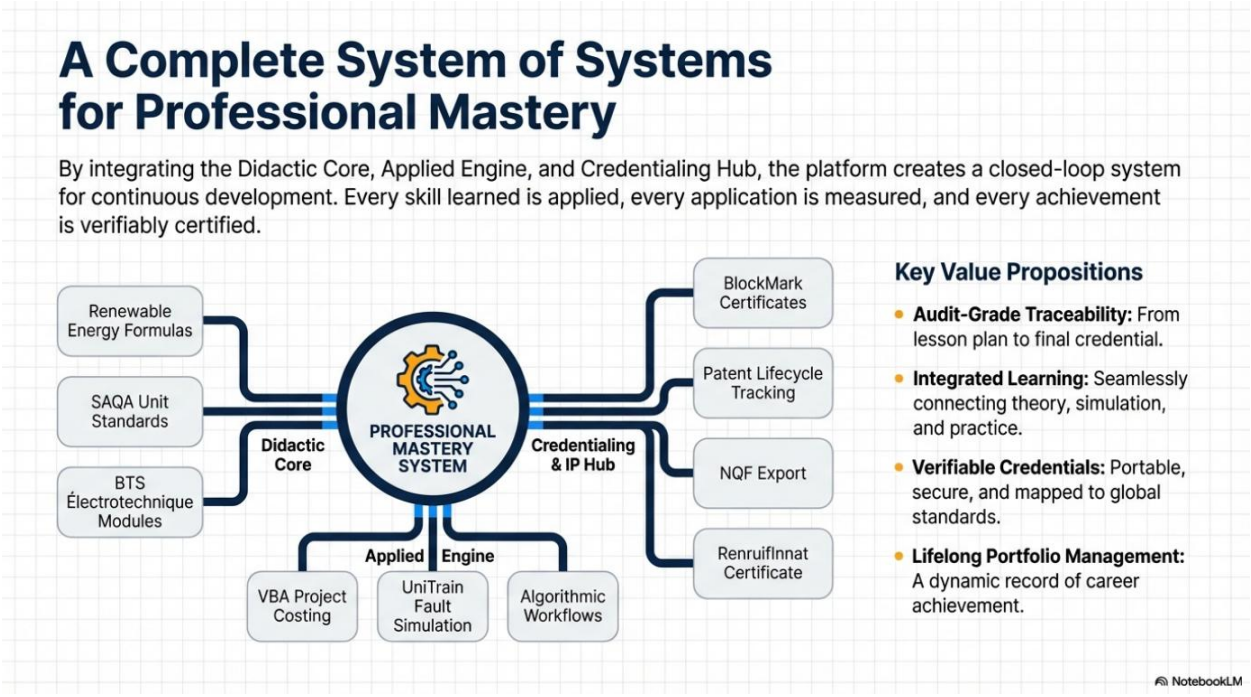
Module: Research and Patent Lifecycle Tracker

```
Type ResearchPatentProject
    ProjectID As String
    ScopeDefined As Boolean
    MethodologySet As Boolean
    PatentNovelty As Boolean
    PatentUtility As Boolean
    PatentInventiveStep As Boolean
    PatentFiled As Boolean
    CertificationStatus As String
End Type
```

The system converts Applied Projects into Intellectual Property assets.

NotebookLM

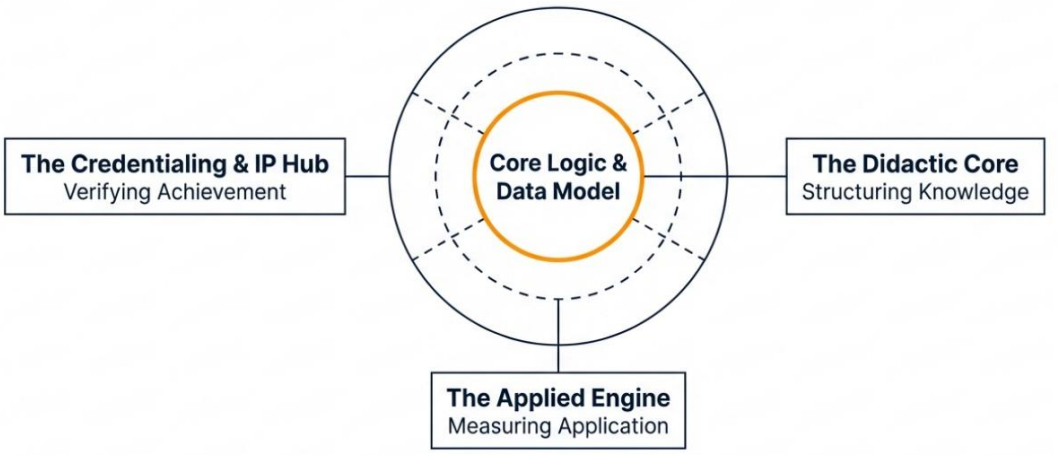

The User Journey:
Tshingombe's Integrated Career Engine.
User Profile Dashboard
Professional Identity
Name: Tshingombe Tshitadi
Institution: St Peace College / DHET
Current Role: Detective Inspector
Employee Number: 23456788
Context: Metropolitan Police Application
Ecosystem Integration Map
Azure DevOps
CI/CD pipelines
Microsoft Learn
Verified learning paths
Trailhead
Einstein Discovery Basics
The Engine
GitHub
Engineering and AI development
Certified Competencies
Trailhead
Einstein Discovery Basics
Prompt Engineering Techniques
NotebookLM


A Complete System of Systems for Professional Mastery
By integrating the Didactic Core, Applied Engine, and Credentialing Hub, the platform creates a closed-loop system for continuous development. Every skill learned is applied, every application is measured, and every achievement is verifiably certified.
Renewable Energy Formulas
SAQA Unit Standards
BTS Électrotechnique Modules
Didactic Core
PROFESSIONAL MASTERY SYSTEM
Credentialing & IP Hub
Applied Engine
VBA Project Costing
UniTrain Fault Simulation
Algorithmic Workflows
BlockMark Certificates
Patent Lifecycle Tracking
NQF Export
RenruifInnat Certificate
Key Value Propositions
Audit-Grade Traceability: From lesson plan to final credential.
Integrated Learning: Seamlessly connecting theory, simulation, and practice.
Verifiable Credentials: Portable, secure, and mapped to global standards.
Lifelong Portfolio Management: A dynamic record of career achievement.
NotebookLM

Technical Editorial
The Professional's Lifelong Ledger.
NQF Level 3
Education
Project: UniTrain
Application
BlockMark Certified
Credential
Patent Filed
Innovation
Detective Inspector
Career Role
Building the architecture for proven expertise.
NotebookLM

A Unified Engine for Career Development, Credentialing, and Innovation

An integrated system for structuring knowledge, verifying application, and managing a lifelong professional portfolio.



This document outlines an audit-grade system for tracking professional mastery across engineering, education, energy, and public service.

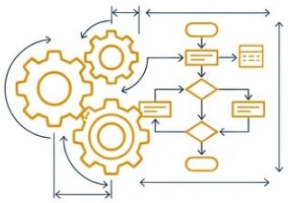
NotebookLM

An Architecture for Verifiable Human Potential

This system provides a modular, evidence-based foundation for professional development. It connects structured learning with practical application, culminating in verifiable credentials and traceable intellectual property. The platform is built on three interconnected pillars:

Pillar 1: The Didactic Core

How knowledge is structured and acquired through a library of modular, cross-disciplinary curricula.



Pillar 2: The Applied Engine

How knowledge is applied and measured through project-based work, simulations, and quantitative analysis.

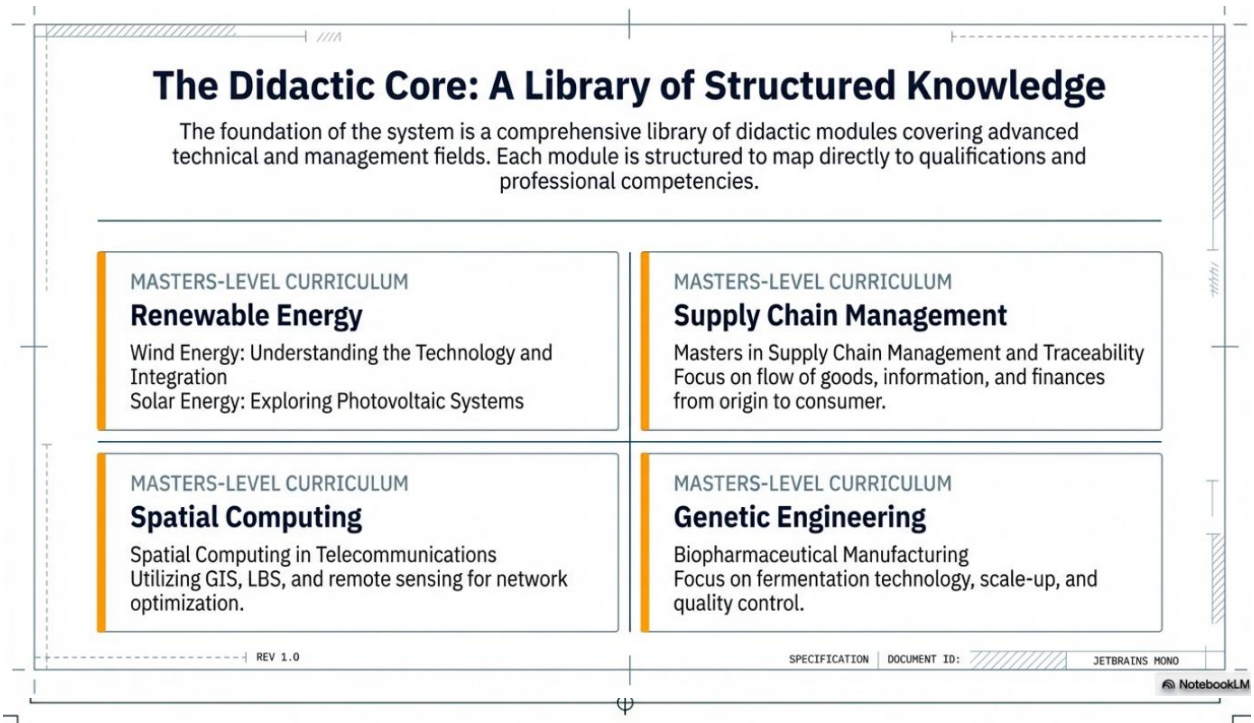
Pillar 3: The Credentialing & IP Hub

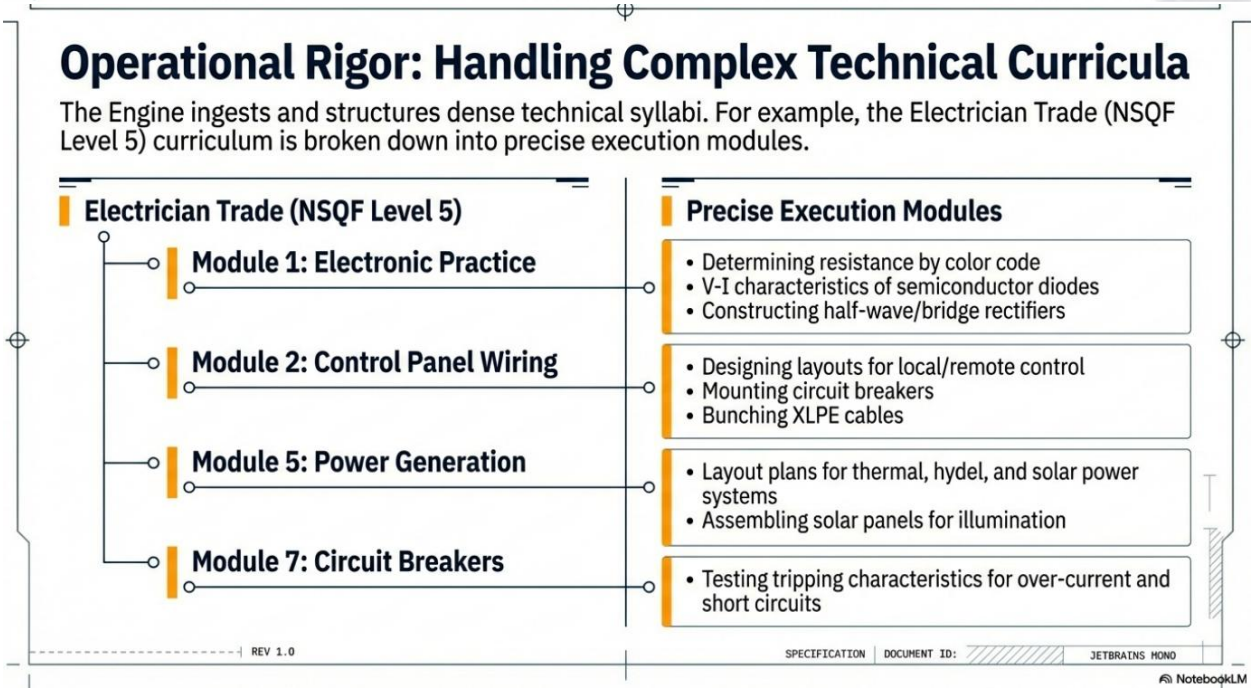
How achievement is verified through national frameworks, blockchain certificates, and a structured patent lifecycle.

DOCUMENT ID:

JETBRAINS MONO

NotebookLM


The Didactic Core: A Library of Structured Knowledge
The foundation of the system is a comprehensive library of didactic modules covering advanced technical and management fields. Each module is structured to map directly to qualifications and professional competencies.
MASTERS-LEVEL CURRICULUM
Renewable Energy
Wind Energy: Understanding the Technology and Integration
Solar Energy: Exploring Photovoltaic Systems
MASTERS-LEVEL CURRICULUM
Supply Chain Management
Masters in Supply Chain Management and Traceability
Focus on flow of goods, information, and finances from origin to consumer.
MASTERS-LEVEL CURRICULUM
Spatial Computing
Spatial Computing in Telecommunications
Utilizing GIS, LBS, and remote sensing for network optimization.
MASTERS-LEVEL CURRICULUM
Genetic Engineering
Biopharmaceutical Manufacturing
Focus on fermentation technology, scale-up, and quality control.
REV 1.0
SPECIFICATION
DOCUMENT ID:
JETBRAINS MONO
NotebookLM


Operational Rigor: Handling Complex Technical Curricula
The Engine ingests and structures dense technical syllabi. For example, the Electrician Trade (NSQF Level 5) curriculum is broken down into precise execution modules.
Electrician Trade (NSQF Level 5)
Module 1: Electronic Practice
Module 2: Control Panel Wiring
Module 5: Power Generation
Module 7: Circuit Breakers
Precise Execution Modules
• Determining resistance by color code
• V-I characteristics of semiconductor diodes
• Constructing half-wave/bridge rectifiers
• Designing layouts for local/remote control
• Mounting circuit breakers
• Bunching XLPE cables
• Layout plans for thermal, hydel, and solar power systems
• Assembling solar panels for illumination
• Testing tripping characteristics for over-current and short circuits
REV 1.0
SPECIFICATION
DOCUMENT ID:
JETBRAINS MONO
NotebookLM

Bridging Didactics and Practice: The Simulation Environment

The system integrates with hands-on training platforms like the Lucas-Nülle UniTrain and InsTrain systems. Practical skills are logged, evaluated, and certified.

DC Technology

AC Technology

Three-Phase Technology

KNX® Building Automation

```
' Module: UniTrainICredentialTracker
' Purpose: Automate training progress, fault simulation, and credentialing

Type UniTrainTrainee
    Name As String
    CourseCode As String
    DC_Module As Boolean
    AC_Module As Boolean
    ThreePhase_Module As Boolean
    FaultsResolved As Integer
    TotalFaults As Integer
    CertificationStatus As String
End Type
```

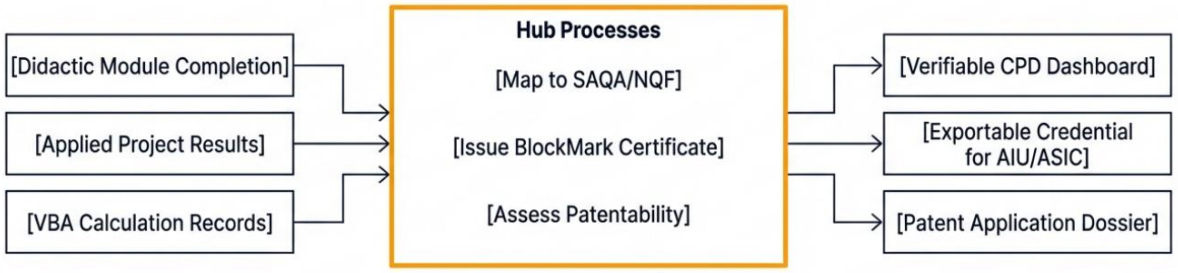
REV 1.0

SPECIFICATION | DOCUMENT ID: //////// | JETBRAINS MONO

NotebookLM

The Credentialing & IP Hub: Verifying Mastery and Ownership

All structured learning and applied work culminates in the Hub. This pillar formalizes achievement through interoperable digital certificates.



Bilingual & Legacy Ready

The system generates a bilingual (English/French) career portfolio and legacy-ready export formats.

NotebookLM

Mapping to National Standards: The SAQA NQF Level 3 Electrical Engineering Certificate

The platform's data model is designed to align with rigorous national qualification frameworks, such as the South African Qualifications Authority (SAQA).

SAQA ID 63790: National Certificate: Electrical Engineering (NQF Level 3, 133 Credits)			
Component	**Unit Standard ID**	**Title**	**Credits**
Core	258963	Install, test and maintain electrical equipment in a hazardous location	10
Core	113924	Install and commission DC and AC machines and control gear	10
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	5
Elective	259097	Carry out a detailed inspection and repair defects on explosion prevention apparatus	6

REV 1.0 SPECIFICATION | DOCUMENT ID: /////// | JETBRAINS MONO

NotebookLM

The Mechanics of Verification: Blockchain-Ready Credentials

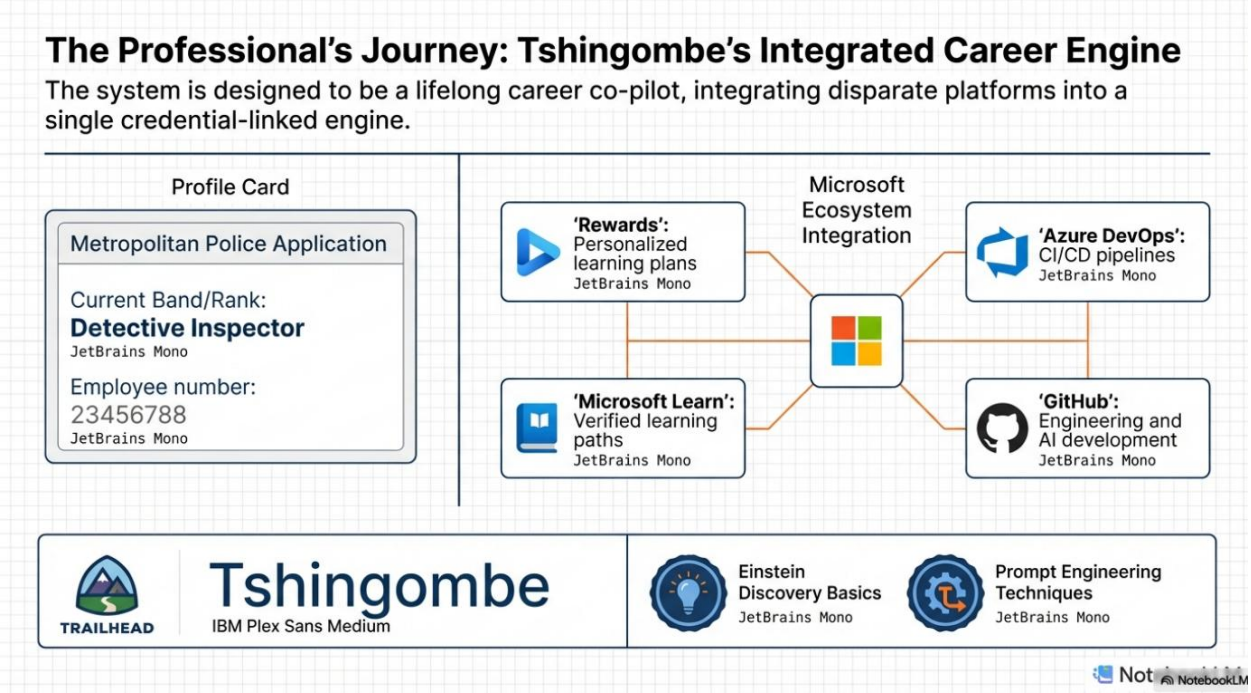
The system integrates with third-party services like BlockMark Technologies to issue secure, verifiable digital certificates.

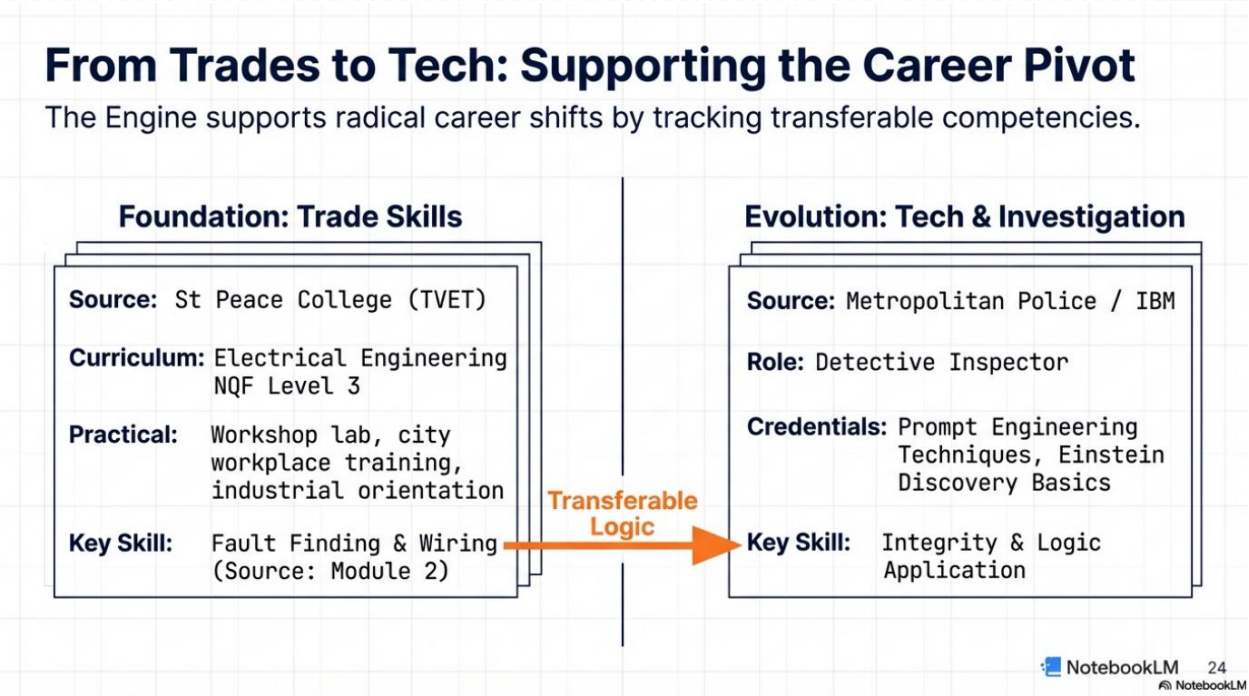
BlockMark Certificate Issuance Price List (VAT Excl.)

Item	Price (credits)	Paid for by
Issue a certificate with an expiry date	£1 (100) per year	Issuer
Issue a non-expiring certificate	£10 (1000)	Issuer
Issue a CPD folder with a certificate	£1 (100) per year	Issuer
Stamp a hash of an issued certificate on blockchain	£1 (100)*	Issuer

*Coming soon (currently beta-testing with no charge)

NotebookLM


The Professional's Journey: Tshingombe's Integrated Career Engine
The system is designed to be a lifelong career co-pilot, integrating disparate platforms into a single credential-linked engine.
Profile Card
Metropolitan Police Application
Current Band/Rank:
Detective Inspector
JetBrains Mono
Employee number:
23456788
JetBrains Mono
Microsoft Ecosystem Integration
'Rewards': Personalized learning plans
JetBrains Mono
'Azure DevOps': CI/CD pipelines
JetBrains Mono
'Microsoft Learn': Verified learning paths
JetBrains Mono
'GitHub': Engineering and AI development
JetBrains Mono
TRAILHEAD
Tshingombe
IBM Plex Sans Medium
Einstein Discovery Basics
JetBrains Mono
Prompt Engineering Techniques
JetBrains Mono


From Trades to Tech: Supporting the Career Pivot
The Engine supports radical career shifts by tracking transferable competencies.
Foundation: Trade Skills
Source: St Peace College (TVET)
Curriculum: Electrical Engineering NQF Level 3
Practical: Workshop lab, city workplace training, industrial orientation
Key Skill: Fault Finding & Wiring (Source: Module 2)
Transferable Logic
Evolution: Tech & Investigation
Source: Metropolitan Police / IBM
Role: Detective Inspector
Credentials: Prompt Engineering Techniques, Einstein Discovery Basics
Key Skill: Integrity & Logic Application
NotebookLM
24

From Research to Asset: A Structured Path to Patentability

The hub manages the lifecycle of intellectual property, creating an audit-ready trail for patent applications.

Patentability Criteria

1. **Novelty:** Not publicly disclosed before filing.
2. **Utility:** Must function and serve a useful purpose.
3. **Inventive Step:** Not obvious to a skilled professional in the field.

VBA Logic for Patent Tracking

```
' Module: Research and Patent Lifecycle Tracker
Type ResearchPatentProject
    ProjectID As String
    ScopeDefined As Boolean
    MethodologySet As Boolean
    PatentNovelty As Boolean          ' #FF9900
    PatentUtility As Boolean          ' #FF9900
    PatentInventiveStep As Boolean    ' #FF9900
    PatentFiled As Boolean            ' #64748B
    CertificationStatus As String
End Type
```

N NotebookLM

International Application: The French Brevet de Technicien Supérieur (BTS) in Electrotechnics

The system's architecture is adaptable to diverse international standards, breaking down complex roles into granular certified competencies.

Professional Activities

— Étude - Conception préliminaire
Preliminary study & design

— Conception - étude détaillée du projet
Detailed project design

— Analyse – diagnostic
Analysis – diagnostic

— Maintenance d'une installation électrique
Maintenance of an electrical installation

— Conduite de projet/chantier
Project management

Certified Competencies

— Modéliser le comportement de tout ou partie d'un ouvrage
Model system behavior

— Dimensionner les constituants
Dimension components

— Proposer l'architecture d'un ouvrage
Propose system architecture

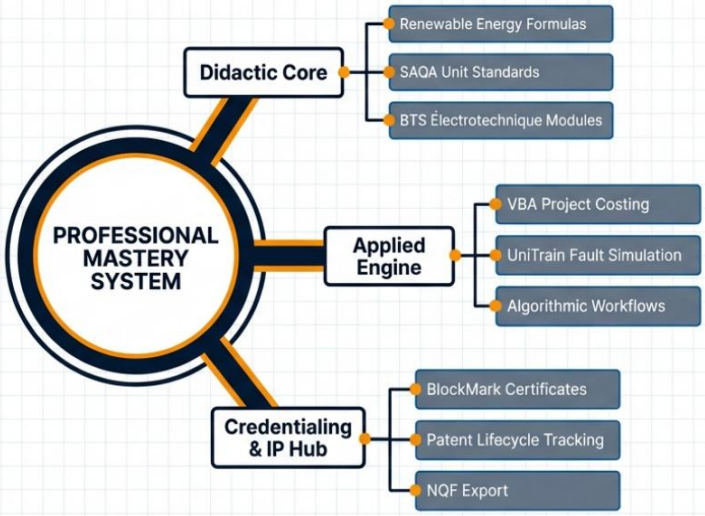
— Gérer et conduire le projet/chantier
Manage the project

— Réaliser un diagnostic de performance
Perform a diagnostic

N NotebookLM

A Complete System of Systems for Professional Mastery

By integrating the Didactic Core, Applied Engine, and Credentialing Hub, the platform creates a closed-loop system for continuous development. Every skill learned is applied, every application is measured, and every achievement is verifiably certified.



Key Value Propositions

- **Audit-Grade Traceability:** From lesson plan to final credential.
- **Integrated Learning:** Seamlessly connecting theory, simulation, and practice.
- **Verifiable Credentials:** Portable, secure, and mapped to global standards.
- **Lifelong Portfolio Management:** A dynamic record of career achievement and innovation.

NotebookLM

The Professional's Lifelong Ledger

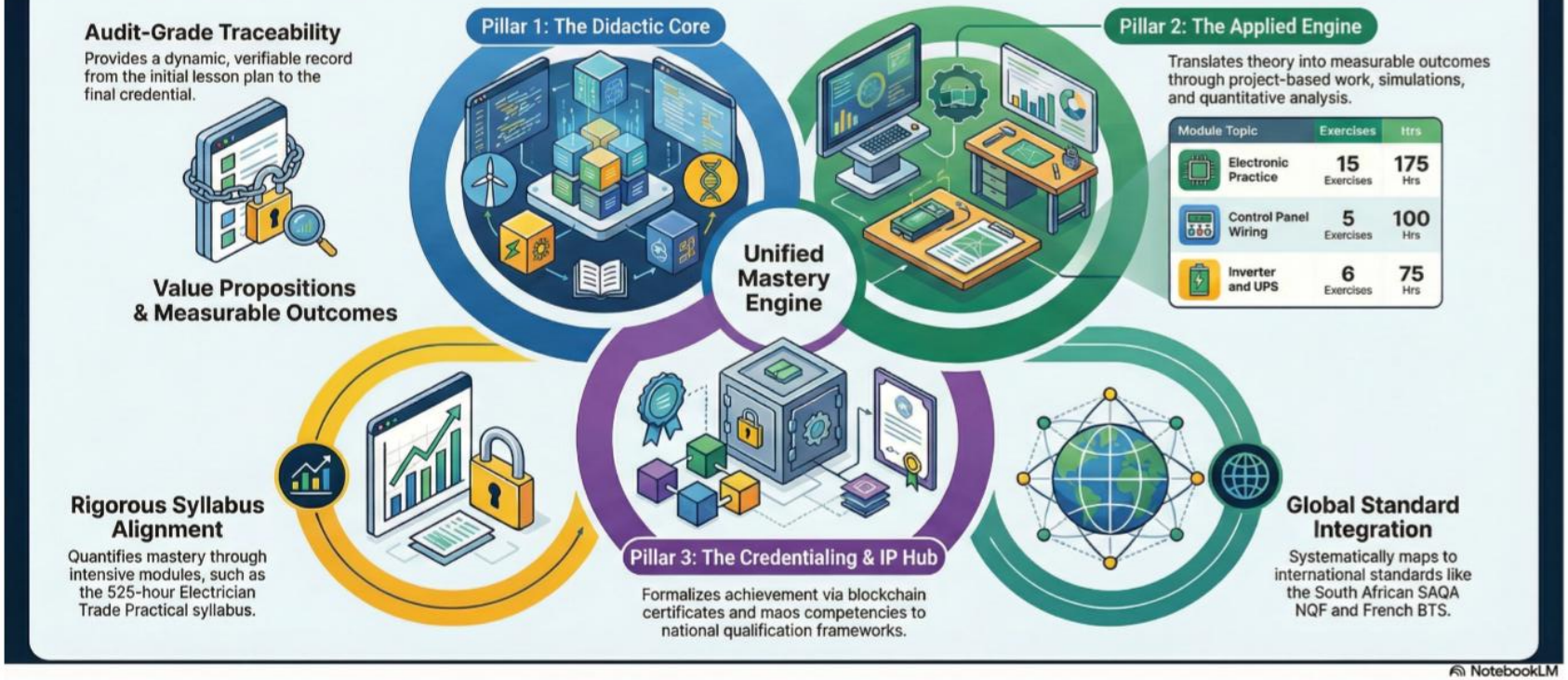
This is more than a system; it is a permanent, dynamic, and verifiable record of an individual's accumulated knowledge, practical skill, and innovative contributions. It is the definitive ledger of human potential, realized and proven.

NQF Level 3	Project: UniTrain	Credential: BlockMark Certified	Patent: Filed	Role: Detective Inspector

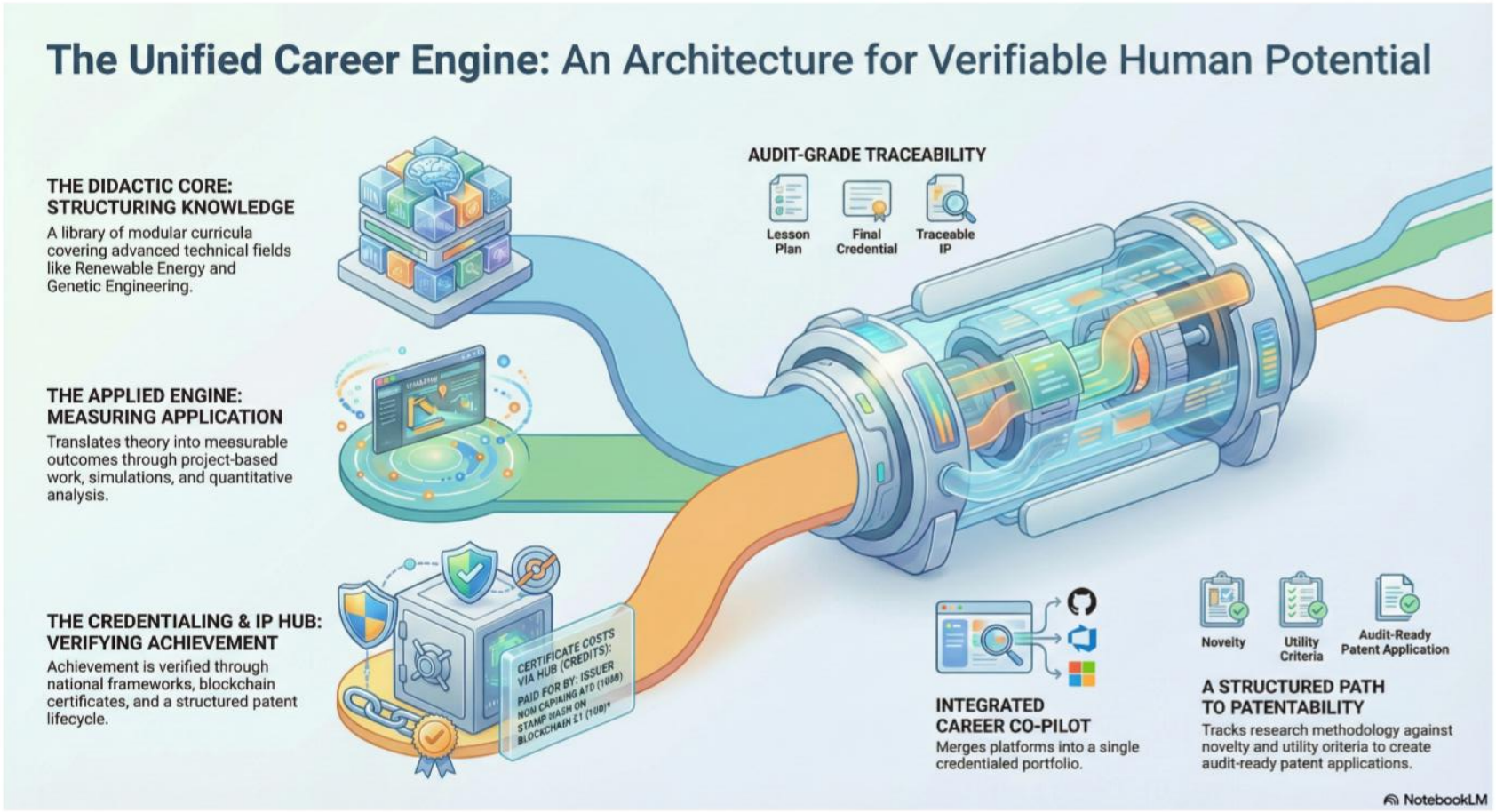
Building the architecture for proven expertise.

NotebookLM

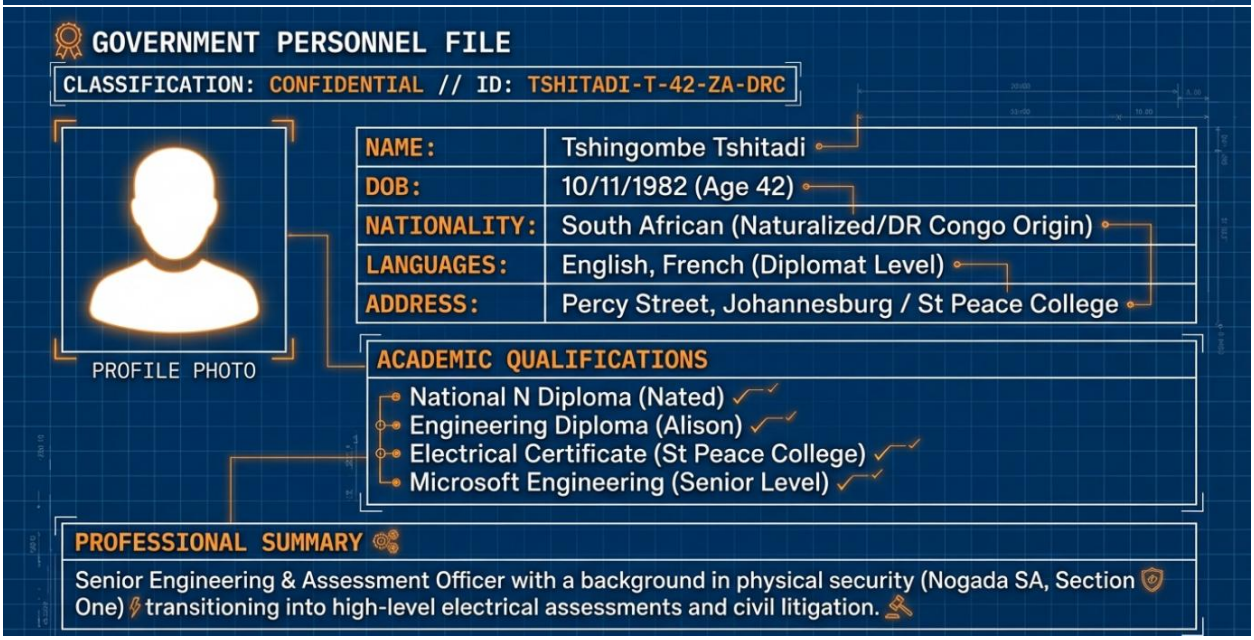
The Unified Mastery Engine: An Architecture for Verifiable Human Potential

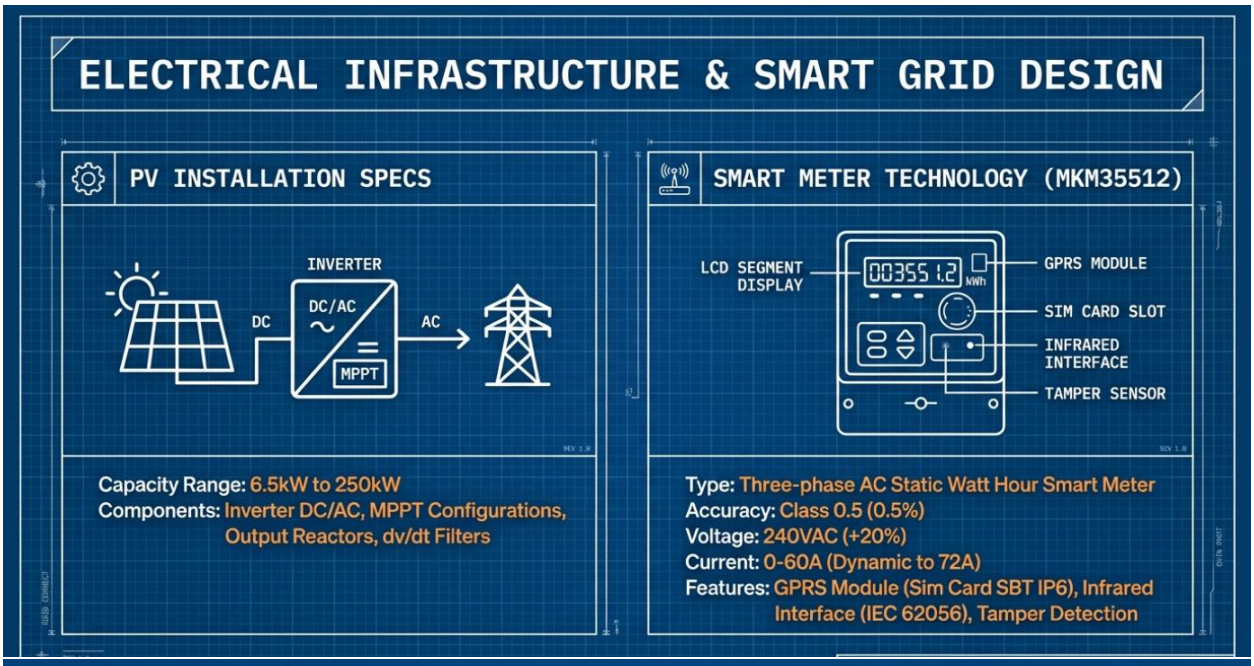

Audit-Grade Traceability
Provides a dynamic, verifiable record from the initial lesson plan to the final credential.
Value Propositions & Measurable Outcomes
Pillar 1: The Didactic Core
Unified Mastery Engine
Pillar 2: The Applied Engine
Translates theory into measurable outcomes through project-based work, simulations, and quantitative analysis.
Module Topic
Exercises
Hrs
Electronic Practice
15 Exercises
175 Hrs
Control Panel Wiring
5 Exercises
100 Hrs
Inverter and UPS
6 Exercises
75 Hrs
Rigorous Syllabus Alignment
Quantifies mastery through intensive modules, such as the 525-hour Electrician Trade Practical syllabus.
Pillar 3: The Credentialing & IP Hub
Formalizes achievement via blockchain certificates and maos competencies to national qualification frameworks.
Global Standard Integration
Systematically maps to international standards like the South African SAQA NQF and French BTS.
NotebookLM

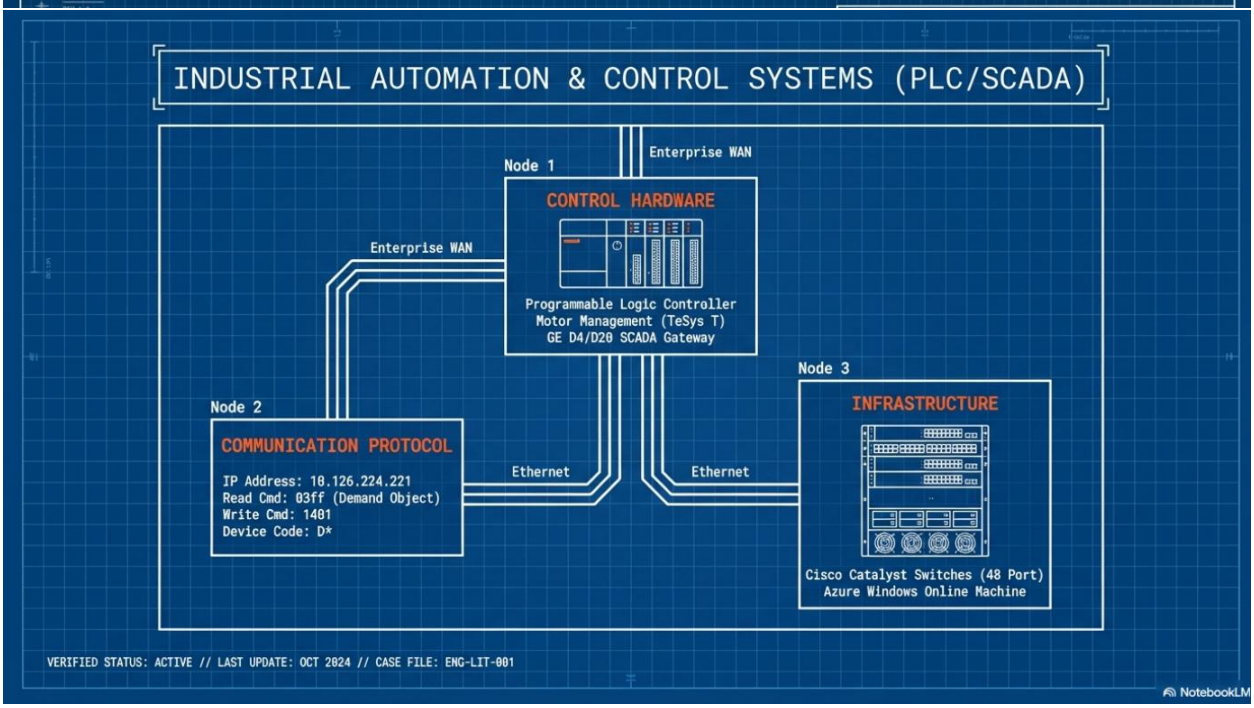
The Unified Career Engine: An Architecture for Verifiable Human Potential

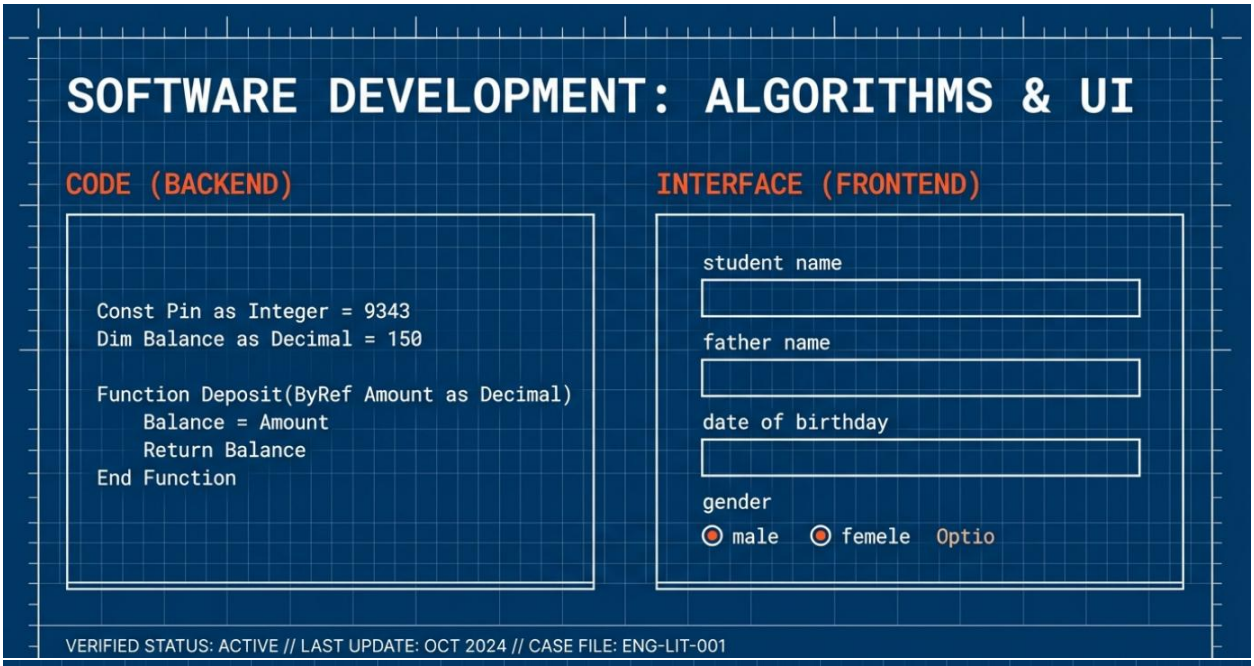

THE DIDACTIC CORE: STRUCTURING KNOWLEDGE
A library of modular curricula covering advanced technical fields like Renewable Energy and Genetic Engineering.
THE APPLIED ENGINE: MEASURING APPLICATION
Translates theory into measurable outcomes through project-based work, simulations, and quantitative analysis.
THE CREDENTIALING & IP HUB: VERIFYING ACHIEVEMENT
Achievement is verified through national frameworks, blockchain certificates, and a structured patent lifecycle.
AUDIT-GRADE TRACEABILITY
Lesson Plan
Final Credential
Traceable IP
CERTIFICATE COSTS VIA HUB (CREDITS):
PAID FOR BY: ISSUER
NOW CAPTURING ATD (1086)
STAMP WASH ON
BLOCKCHAIN £1 (10D)*
INTEGRATED CAREER CO-PILOT
Merges platforms into a single credentialed portfolio.
Novelty
Utility Criteria
Audit-Ready Patent Application
A STRUCTURED PATH TO PATENTABILITY
Tracks research methodology against novelty and utility criteria to create audit-ready patent applications.
NotebookLM

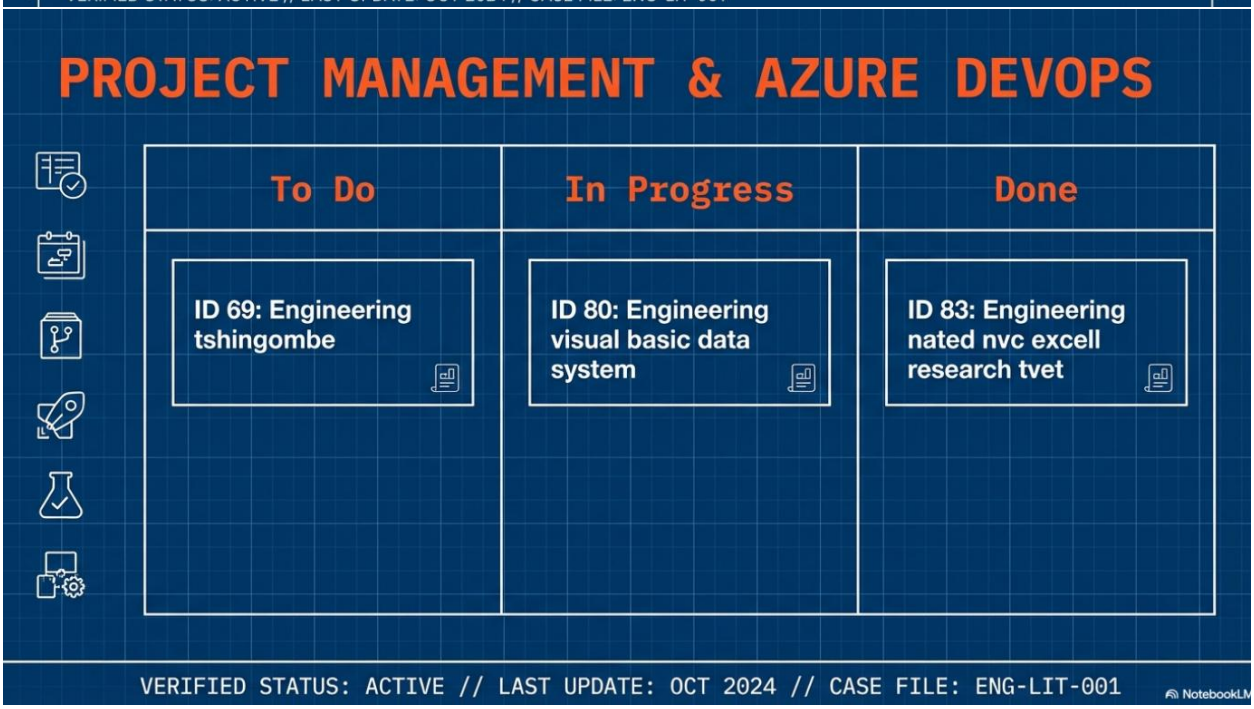
CONFIDENTIAL
PROFESSIONAL DOSSIER
& LEGAL CASE FILE
SUBJECT: TSHINGOMBE TSHITADI FISTON
REF: JA 37/19
REF: JR 2461/15
REF: GP 49/3/17
A comprehensive review of Technical Engineering Portfolios, Security Enforcement Capabilities, and High Court Litigation History.
• Electrical Engineering & Smart Grid Technology
• Software Development (VB.NET / PLC)
• Physical Security & Law Enforcement Protocols
• Labour Law & Civil Litigation
NotebookLM

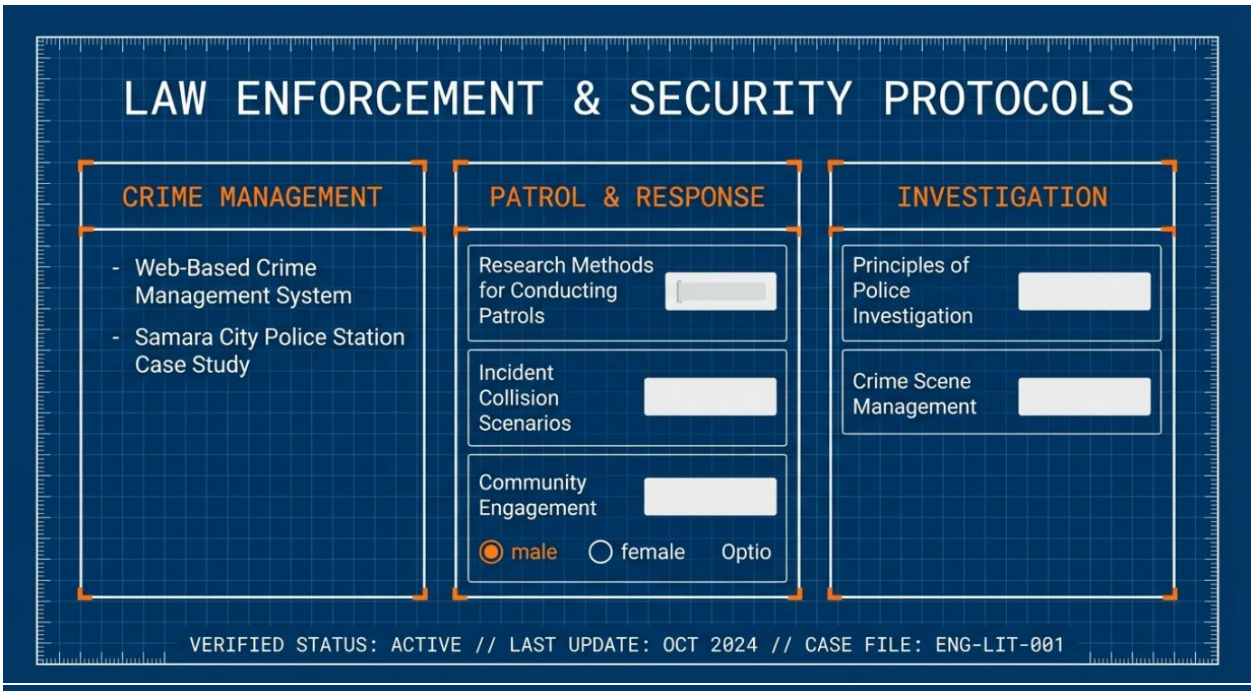

GOVERNMENT PERSONNEL FILE
CLASSIFICATION: CONFIDENTIAL // ID: TSHITADI-T-42-ZA-DRC
PROFILE PHOTO
NAME: Tshingombe Tshitadi
DOB: 10/11/1982 (Age 42)
NATIONALITY: South African (Naturalized/DR Congo Origin)
LANGUAGES: English, French (Diplomat Level)
ADDRESS: Percy Street, Johannesburg / St Peace College
ACADEMIC QUALIFICATIONS
National N Diploma (Nated)
Engineering Diploma (Alison)
Electrical Certificate (St Peace College)
Microsoft Engineering (Senior Level)
PROFESSIONAL SUMMARY
Senior Engineering & Assessment Officer with a background in physical security (Nogada SA, Section One) transitioning into high-level electrical assessments and civil litigation.

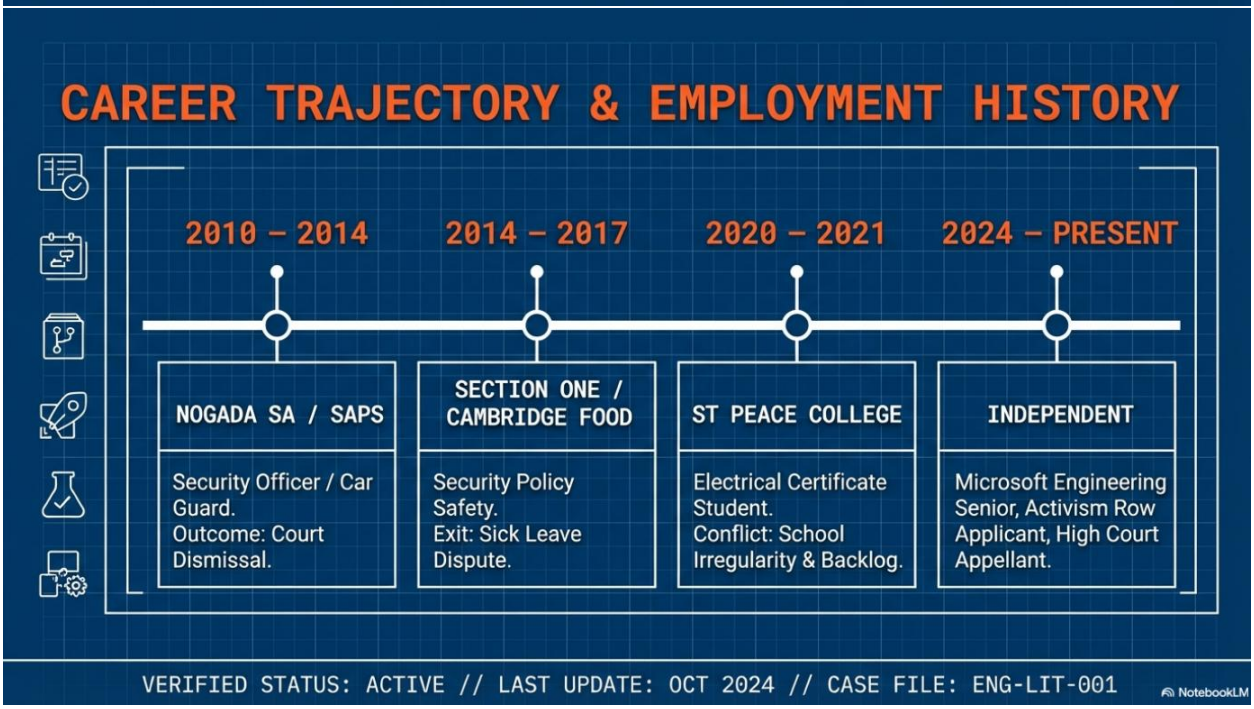

ELECTRICAL INFRASTRUCTURE & SMART GRID DESIGN
PV INSTALLATION SPECS
INVERTER
DC
DC/AC
AC
MPPT
Capacity Range: 6.5kW to 250kW
Components: Inverter DC/AC, MPPT Configurations, Output Reactors, dv/dt Filters
SMART METER TECHNOLOGY (MKM35512)
LCD SEGMENT DISPLAY
00355 1.2
kWh
GPRS MODULE
SIM CARD SLOT
INFRARED INTERFACE
TAMPER SENSOR
Type: Three-phase AC Static Watt Hour Smart Meter
Accuracy: Class 0.5 (0.5%)
Voltage: 240VAC (+20%)
Current: 0-60A (Dynamic to 72A)
Features: GPRS Module (Sim Card SBT IP6), Infrared Interface (IEC 62056), Tamper Detection

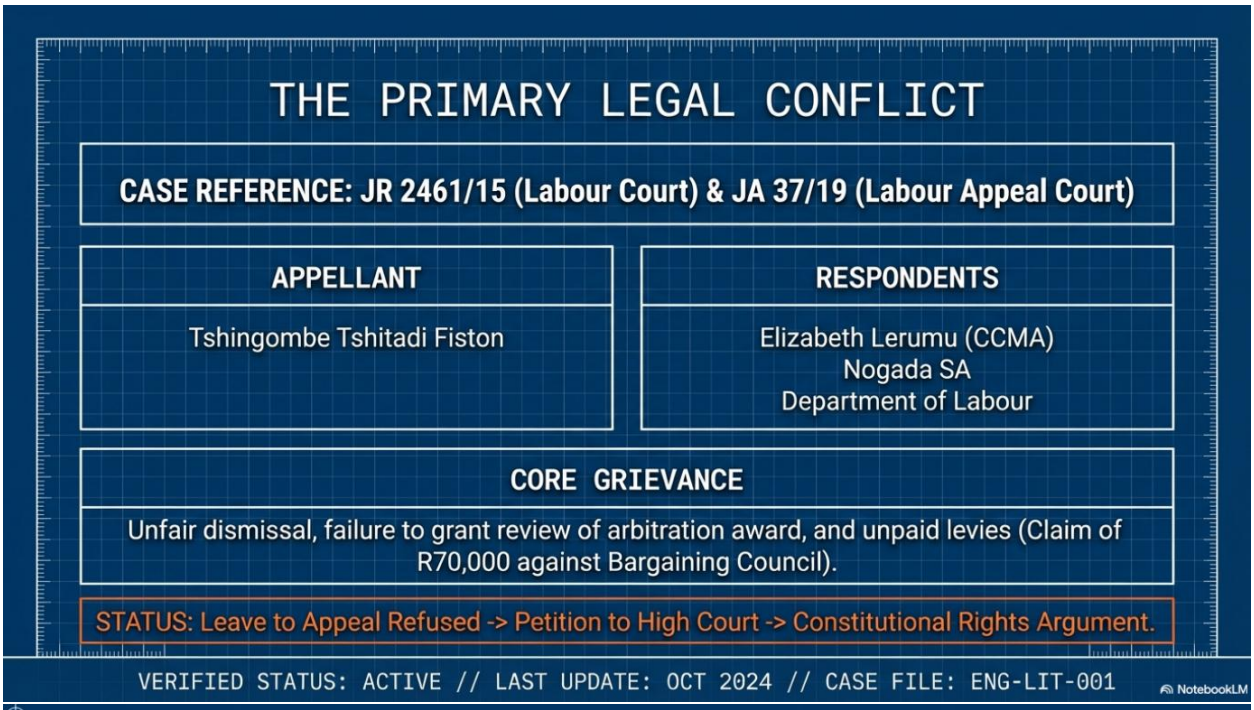

INDUSTRIAL AUTOMATION & CONTROL SYSTEMS (PLC/SCADA)
Node 1
Enterprise WAN
CONTROL HARDWARE
Enterprise WAN
Programmable Logic Controller
Motor Management (TeSys T)
GE D4/D20 SCADA Gateway
Node 2
COMMUNICATION PROTOCOL
IP Address: 10.126.224.221
Read Cmd: 03ff (Demand Object)
Write Cmd: 1401
Device Code: D*
Ethernet
Ethernet
Node 3
INFRASTRUCTURE
Cisco Catalyst Switches (48 Port)
Azure Windows Online Machine
VERIFIED STATUS: ACTIVE // LAST UPDATE: OCT 2024 // CASE FILE: ENG-LIT-001
NotebookLM

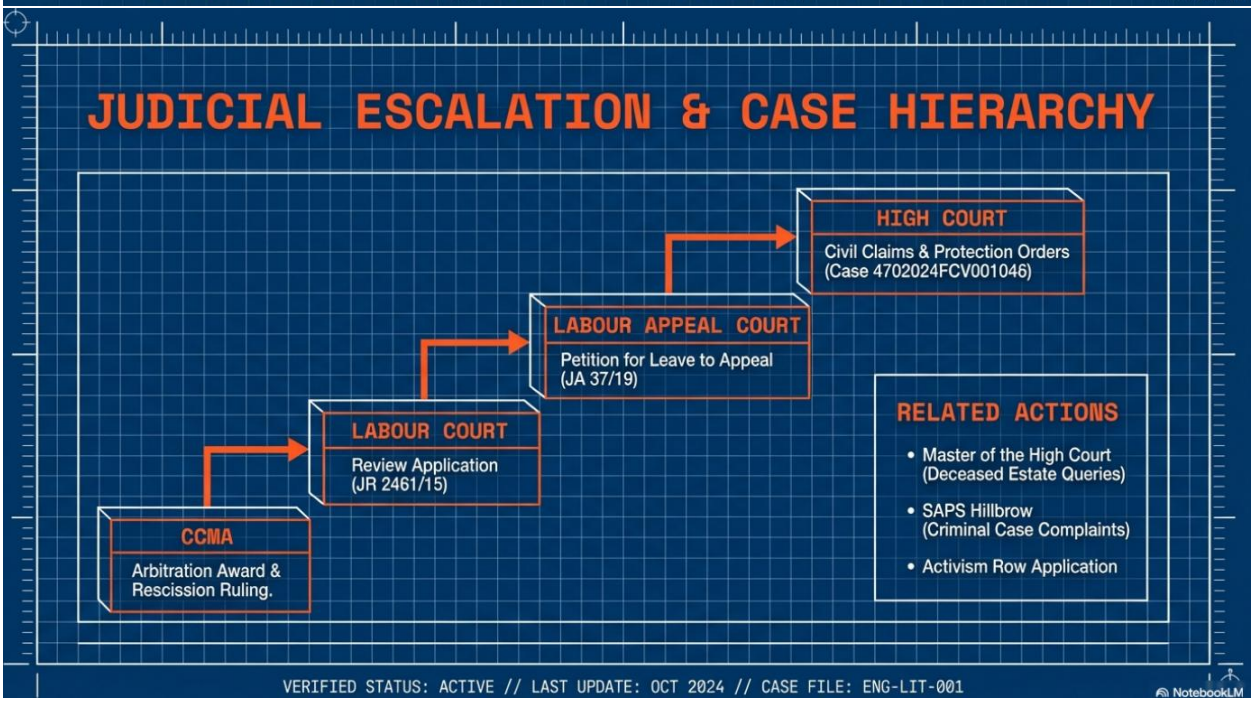

SOFTWARE DEVELOPMENT: ALGORITHMS & UI
CODE (BACKEND)
Const Pin as Integer = 9343
Dim Balance as Decimal = 150
Function Deposit(ByRef Amount as Decimal)
Balance = Amount
Return Balance
End Function
INTERFACE (FRONTEND)
student name
father name
date of birthday
gender
male
femele
Optio
VERIFIED STATUS: ACTIVE // LAST UPDATE: OCT 2024 // CASE FILE: ENG-LIT-001

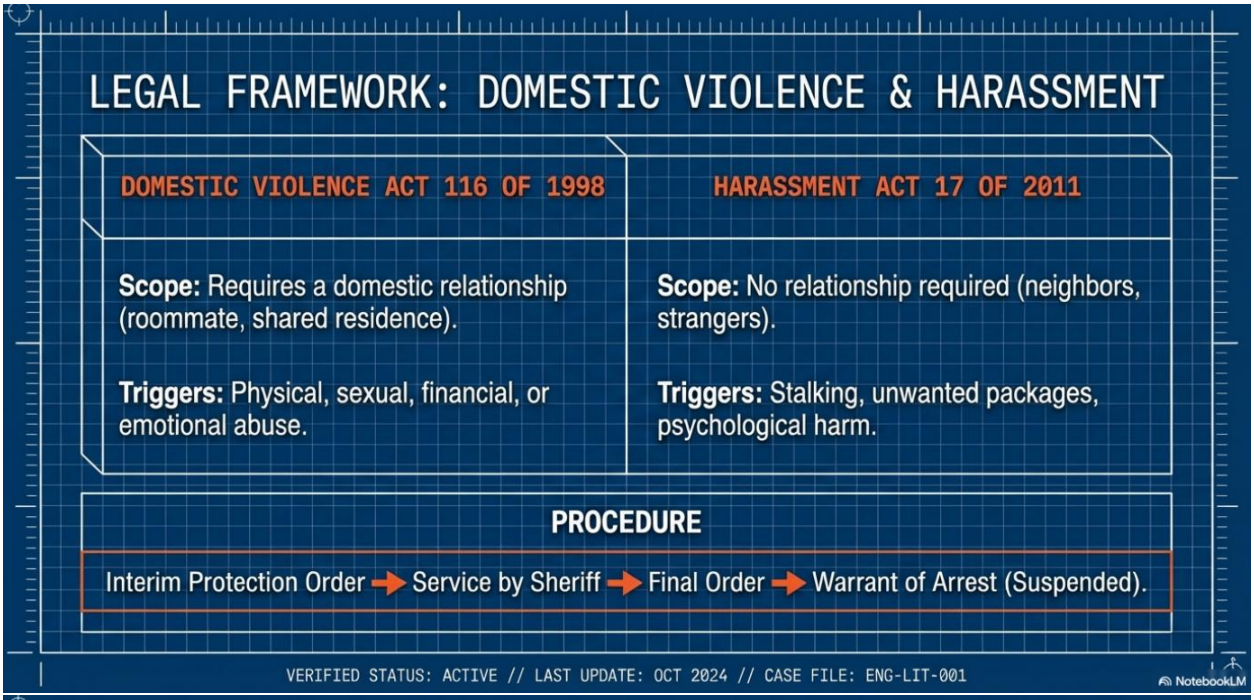

PROJECT MANAGEMENT & AZURE DEVOPS
To Do
In Progress
Done
ID 69: Engineering tshingombe
ID 80: Engineering visual basic data system
ID 83: Engineering nated nvc excell research tvet
VERIFIED STATUS: ACTIVE // LAST UPDATE: OCT 2024 // CASE FILE: ENG-LIT-001
NotebookLM

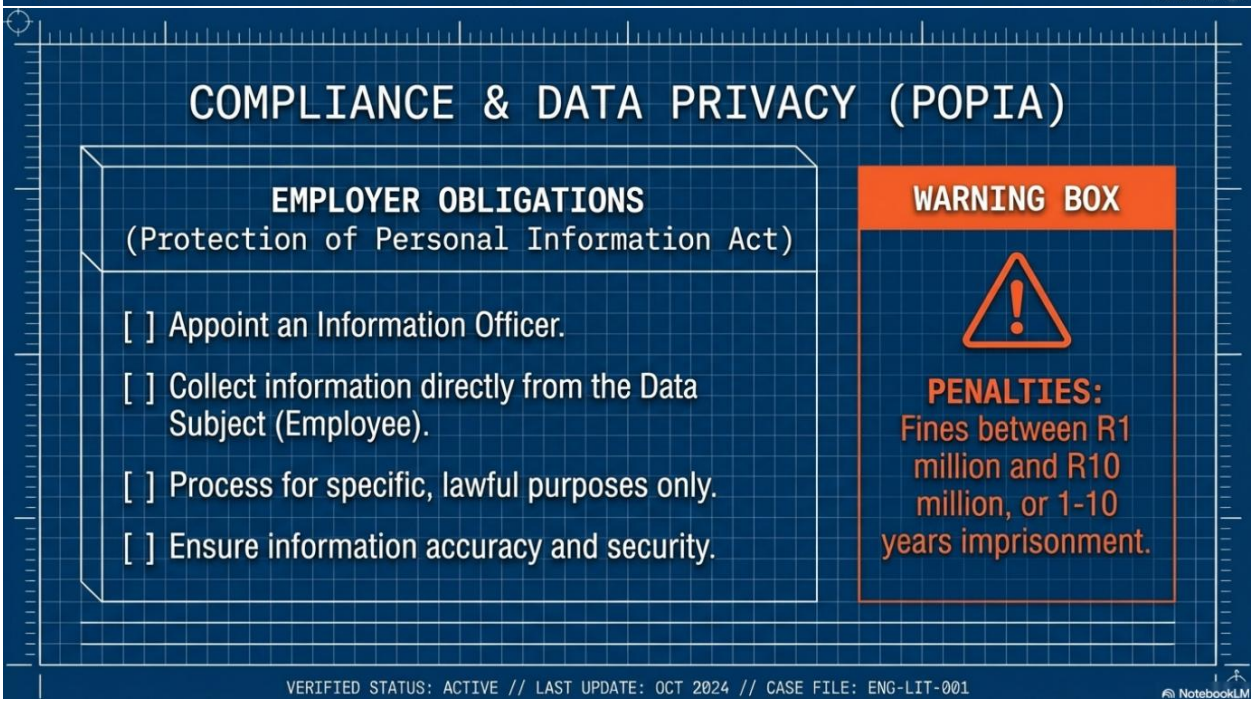

LAW ENFORCEMENT & SECURITY PROTOCOLS
CRIME MANAGEMENT
- Web-Based Crime Management System
- Samara City Police Station Case Study
PATROL & RESPONSE
Research Methods for Conducting Patrols
Incident Collision Scenarios
Community Engagement
male
female
Optio
INVESTIGATION
Principles of Police Investigation
Crime Scene Management
VERIFIED STATUS: ACTIVE // LAST UPDATE: OCT 2024 // CASE FILE: ENG-LIT-001


CAREER TRAJECTORY & EMPLOYMENT HISTORY
2010 – 2014
NOGADA SA / SAPS
Security Officer / Car Guard.
Outcome: Court Dismissal.
2014 – 2017
SECTION ONE / CAMBRIDGE FOOD
Security Policy Safety.
Exit: Sick Leave Dispute.
2020 – 2021
ST PEACE COLLEGE
Electrical Certificate Student.
Conflict: School Irregularity & Backlog.
2024 – PRESENT
INDEPENDENT
Microsoft Engineering Senior, Activism Row Applicant, High Court Appellant.
VERIFIED STATUS: ACTIVE // LAST UPDATE: OCT 2024 // CASE FILE: ENG-LIT-001
NotebookLM

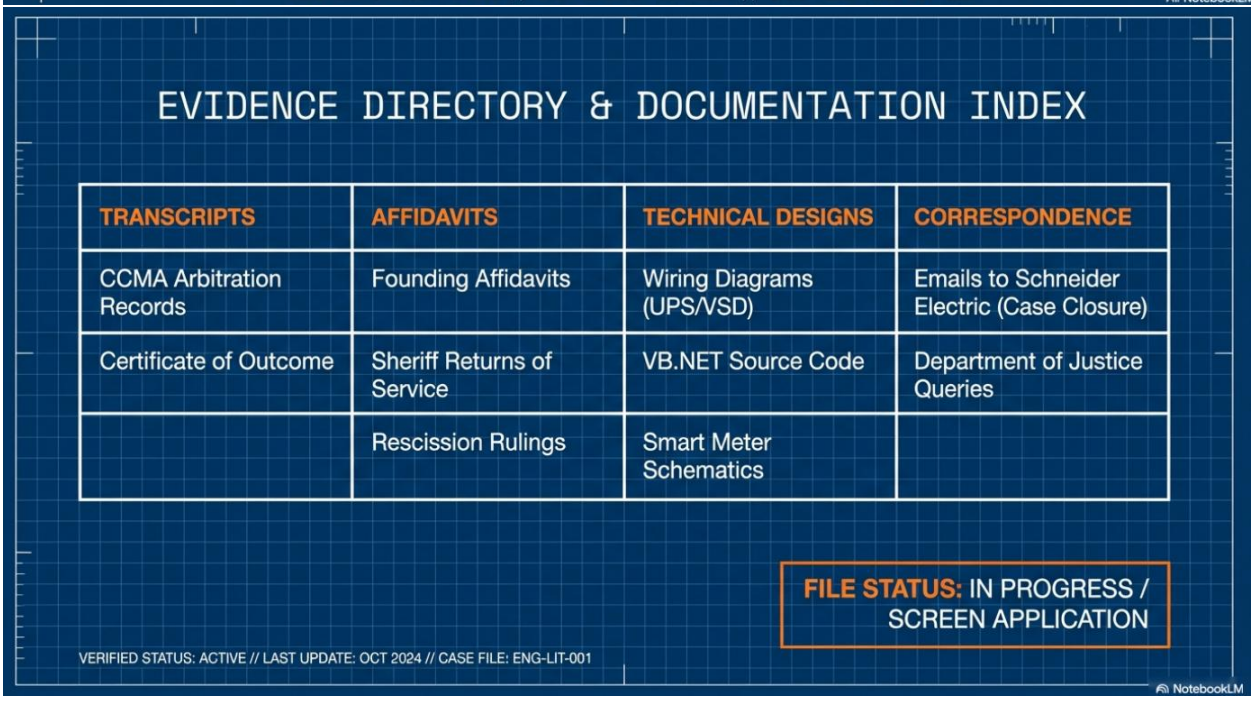

THE PRIMARY LEGAL CONFLICT
CASE REFERENCE: JR 2461/15 (Labour Court) & JA 37/19 (Labour Appeal Court)
APPELLANT
Tshingombe Tshitadi Fiston
RESPONDENTS
Elizabeth Lerumu (CCMA)
Nogada SA
Department of Labour
CORE GRIEVANCE
Unfair dismissal, failure to grant review of arbitration award, and unpaid levies (Claim of R70,000 against Bargaining Council).
STATUS: Leave to Appeal Refused -> Petition to High Court -> Constitutional Rights Argument.
VERIFIED STATUS: ACTIVE // LAST UPDATE: OCT 2024 // CASE FILE: ENG-LIT-001
NotebookLM


JUDICIAL ESCALATION & CASE HIERARCHY
CCMA
Arbitration Award & Rescission Ruling.
LABOUR COURT
Review Application (JR 2461/15)
LABOUR APPEAL COURT
Petition for Leave to Appeal (JA 37/19)
HIGH COURT
Civil Claims & Protection Orders (Case 4702024FCV001046)
RELATED ACTIONS
• Master of the High Court (Deceased Estate Queries)
• SAPS Hillbrow (Criminal Case Complaints)
• Activism Row Application
VERIFIED STATUS: ACTIVE // LAST UPDATE: OCT 2024 // CASE FILE: ENG-LIT-001
NotebookLM

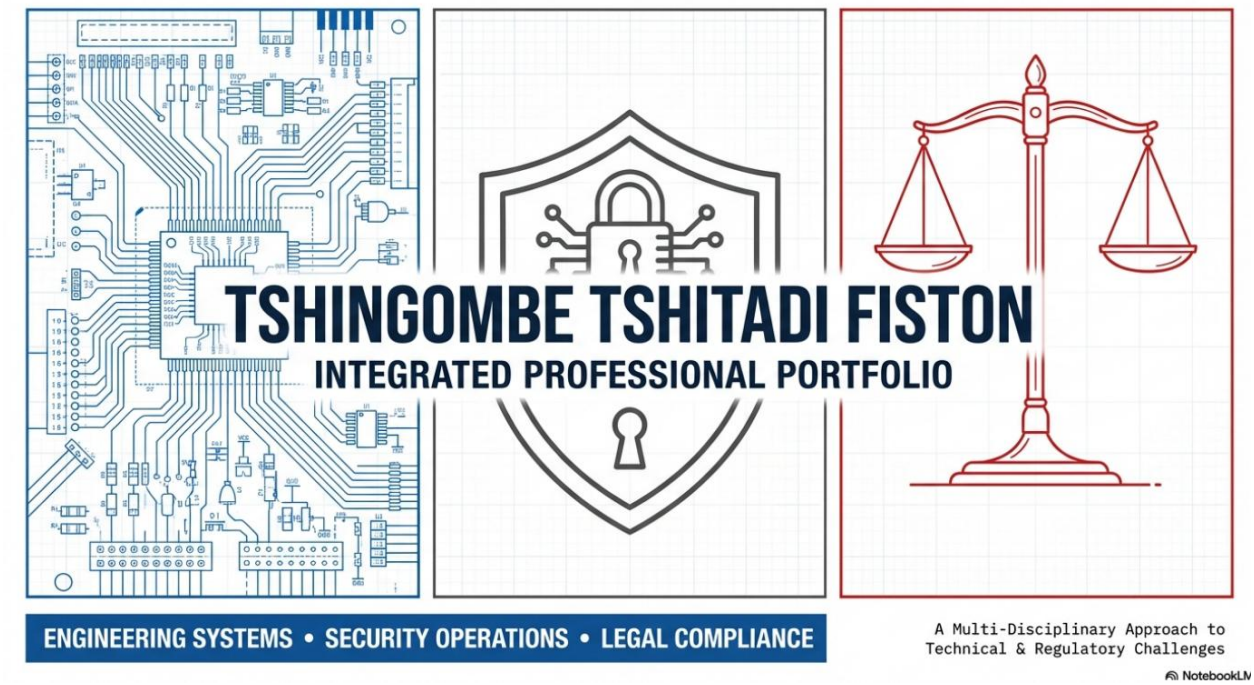

LEGAL FRAMEWORK: DOMESTIC VIOLENCE & HARASSMENT
DOMESTIC VIOLENCE ACT 116 OF 1998
HARASSMENT ACT 17 OF 2011
Scope: Requires a domestic relationship (roommate, shared residence).
Triggers: Physical, sexual, financial, or emotional abuse.
Scope: No relationship required (neighbors, strangers).
Triggers: Stalking, unwanted packages, psychological harm.
PROCEDURE
Interim Protection Order → Service by Sheriff → Final Order → Warrant of Arrest (Suspended).
VERIFIED STATUS: ACTIVE // LAST UPDATE: OCT 2024 // CASE FILE: ENG-LIT-001
NotebookLM


COMPLIANCE & DATA PRIVACY (POPIA)
EMPLOYER OBLIGATIONS
(Protection of Personal Information Act)
[ ] Appoint an Information Officer.
[ ] Collect information directly from the Data Subject (Employee).
[ ] Process for specific, lawful purposes only.
[ ] Ensure information accuracy and security.
WARNING BOX
PENALTIES:
Fines between R1 million and R10 million, or 1-10 years imprisonment.
VERIFIED STATUS: ACTIVE // LAST UPDATE: OCT 2024 // CASE FILE: ENG-LIT-001
NotebookLM

ACTIVISM & SOCIAL JUSTICE MANDATE
TSHINGOMBE CCMA LABOUR COURT
DOJ / ASS POLICE ENGINEERING
TARGET AREAS
1. RACIAL JUSTICE & ANTI-RACISM
2. RIGHTS OF REFUGEES & MIGRANTS
3. RIGHTS OF PERSONS WITH DISABILITIES
4. RIGHT TO A FAIR TRIAL & ACCESS TO JUSTICE
"My query was conflict in civil procedure… certified outcome transcript no agreement… for that reason, CCMA labour didn't grant me."
VERIFIED STATUS: ACTIVE // LAST UPDATE: OCT 2024 // CASE FILE: ENG-LIT-001
NotebookLM


EVIDENCE DIRECTORY & DOCUMENTATION INDEX
TRANSCRIPTS
AFFIDAVITS
TECHNICAL DESIGNS
CORRESPONDENCE
CCMA Arbitration Records
Founding Affidavits
Wiring Diagrams (UPS/VSD)
Emails to Schneider Electric (Case Closure)
Certificate of Outcome
Sheriff Returns of Service
VB.NET Source Code
Department of Justice Queries
Rescission Rulings
Smart Meter Schematics
FILE STATUS: IN PROGRESS / SCREEN APPLICATION
VERIFIED STATUS: ACTIVE // LAST UPDATE: OCT 2024 // CASE FILE: ENG-LIT-001
NotebookLM

CONTACT & CASE INFORMATION
APPELLANT: Tshingombe Tshitadi Fiston
EMAIL: tshingombefiston@gmail.com
PHONE: 072 529 8946
ADDRESS: 1030/20 Percy Street, Johannesburg
FINAL CASE REFERENCE: JA 37/19 / JR 2461/15
END OF DOSSIER
VERIFIED STATUS: ACTIVE // LAST UPDATE: OCT 2024 // CASE FILE: ENG-LIT-001
VERIFIED STATUS: ACTIVE // LAST UPDATE: OCT 2024 // CASE FILE: ENG-LIT-001
NotebookLM


TSHINGOMBE TSHITADI FISTON
INTEGRATED PROFESSIONAL PORTFOLIO
ENGINEERING SYSTEMS • SECURITY OPERATIONS • LEGAL COMPLIANCE
A Multi-Disciplinary Approach to
Technical & Regulatory Challenges
NotebookLM

THE CONVERGENCE OF TECHNOLOGY & REGULATION

THE CREATOR

- Electrical Engineering
- Smart Metering (MKM35512)
- Software Development (VB.NET, VBA)

THE GUARDIAN

- Security Management
- Law Enforcement Systems
- Crime Prevention (SAPS/PSIRA)

THE REGULATOR

- Labor Law Compliance
- Civil Procedure
- POPIA & Data Privacy

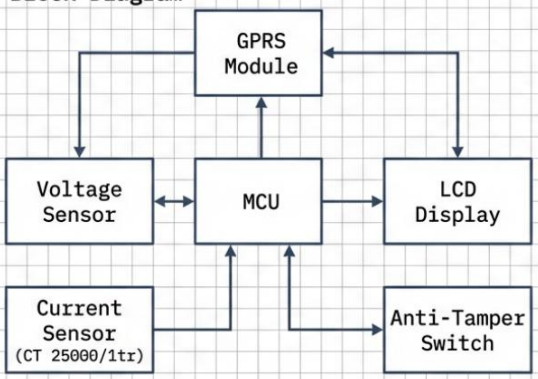
VALUE PROPOSITION

Navigating the intersection where critical infrastructure meets strict legal compliance and operational security.

NotebookLM

HARDWARE DESIGN: SERIES MKM35512 SMART METER

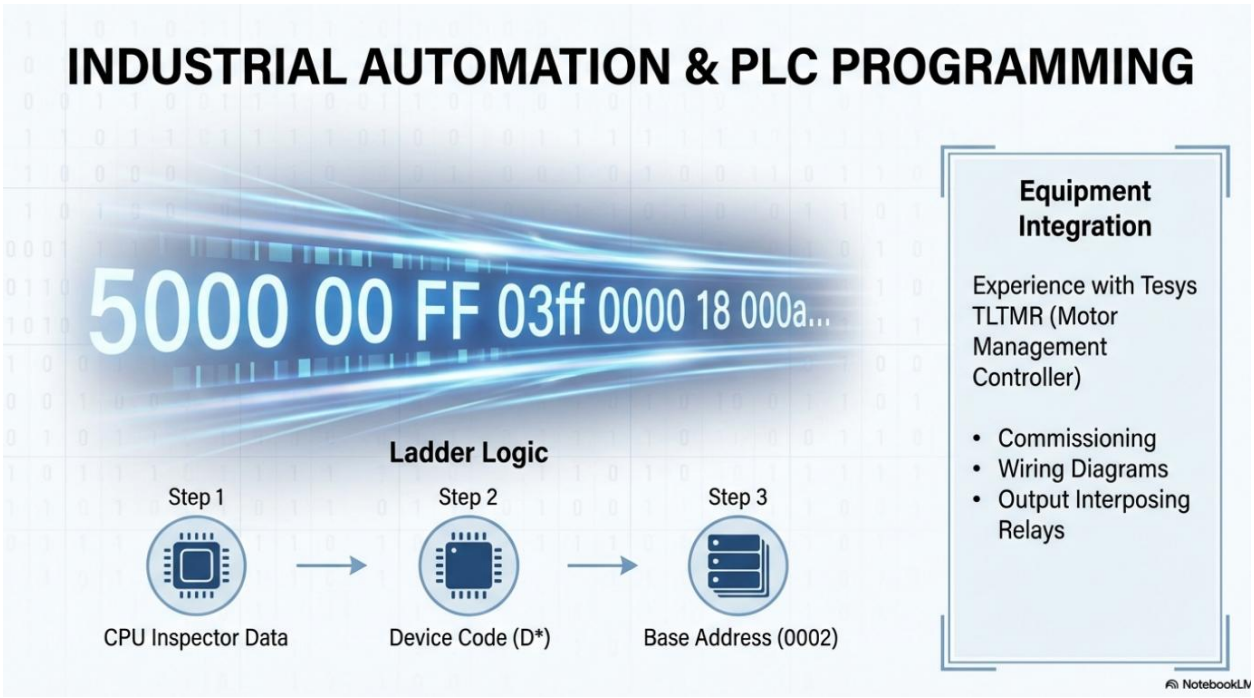
Block Diagram

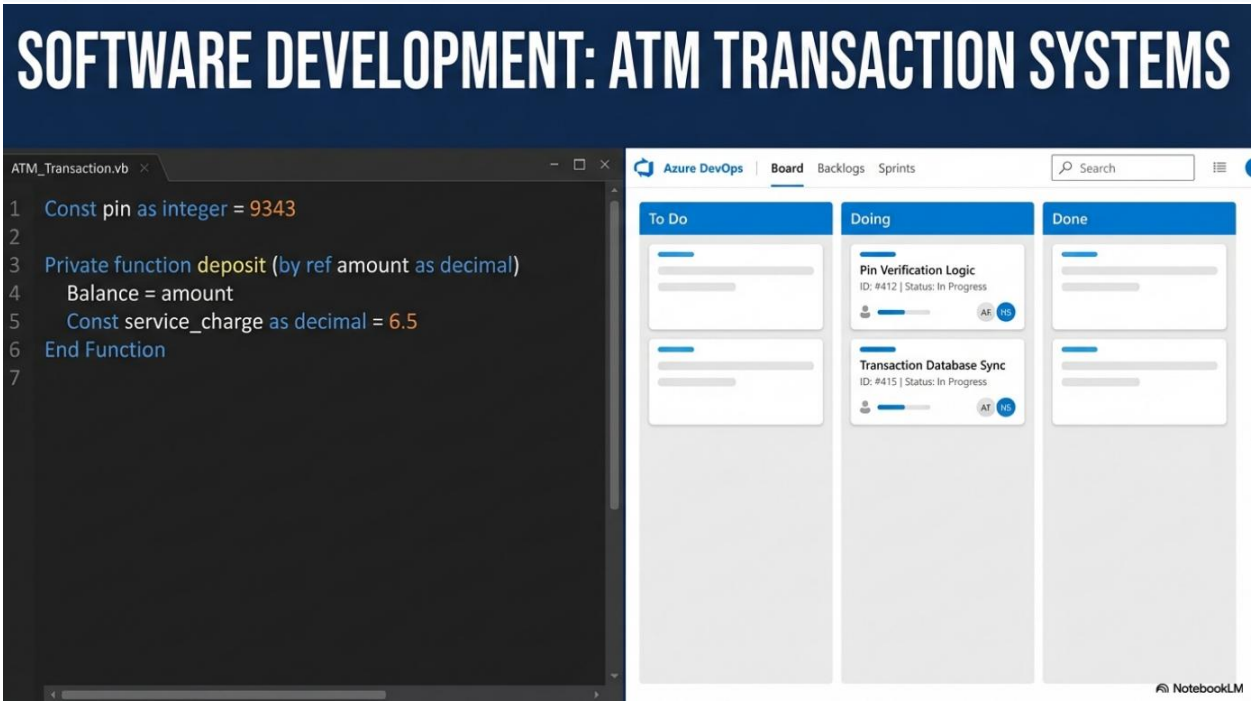


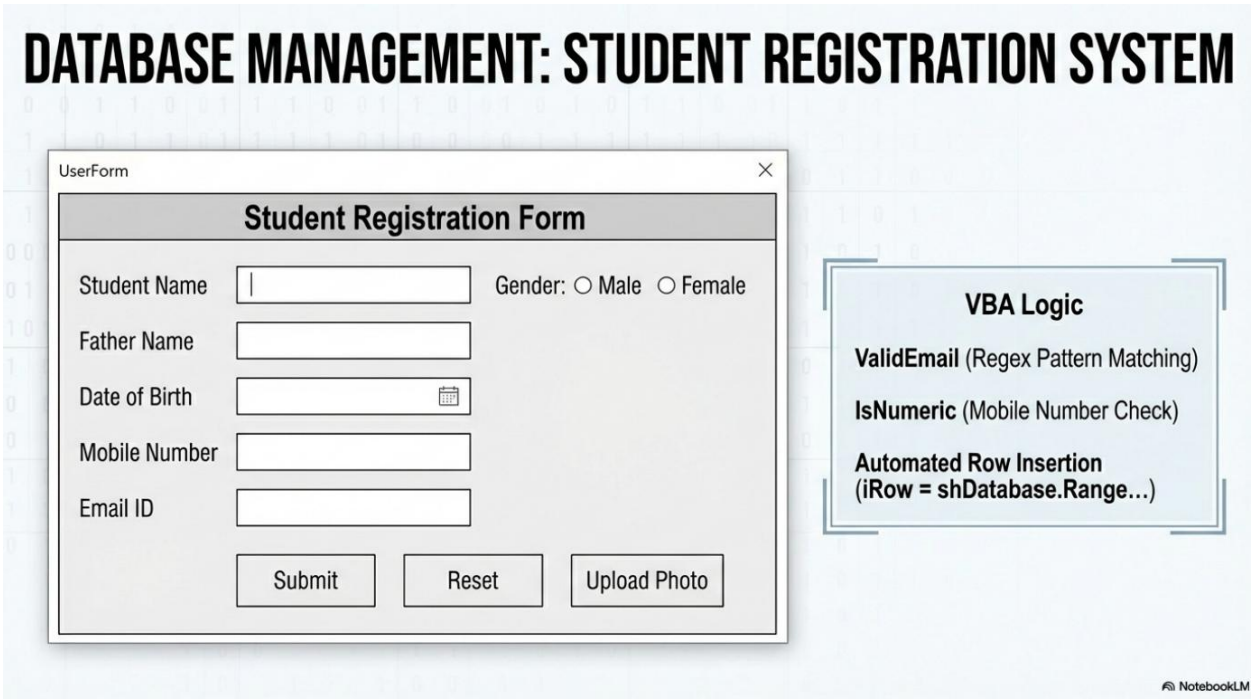
1	System Type	Three-Phase AC Static Watt Hour Smart Meter
2	Voltage / Current	240 VAC (+20%) / 0-60A (Max 72A)
3	Connectivity	GPRS Module (1x SIM), IEC 62056 Infrared
4	Power Mgmt	Internal Battery (12 uA power-down consumption)

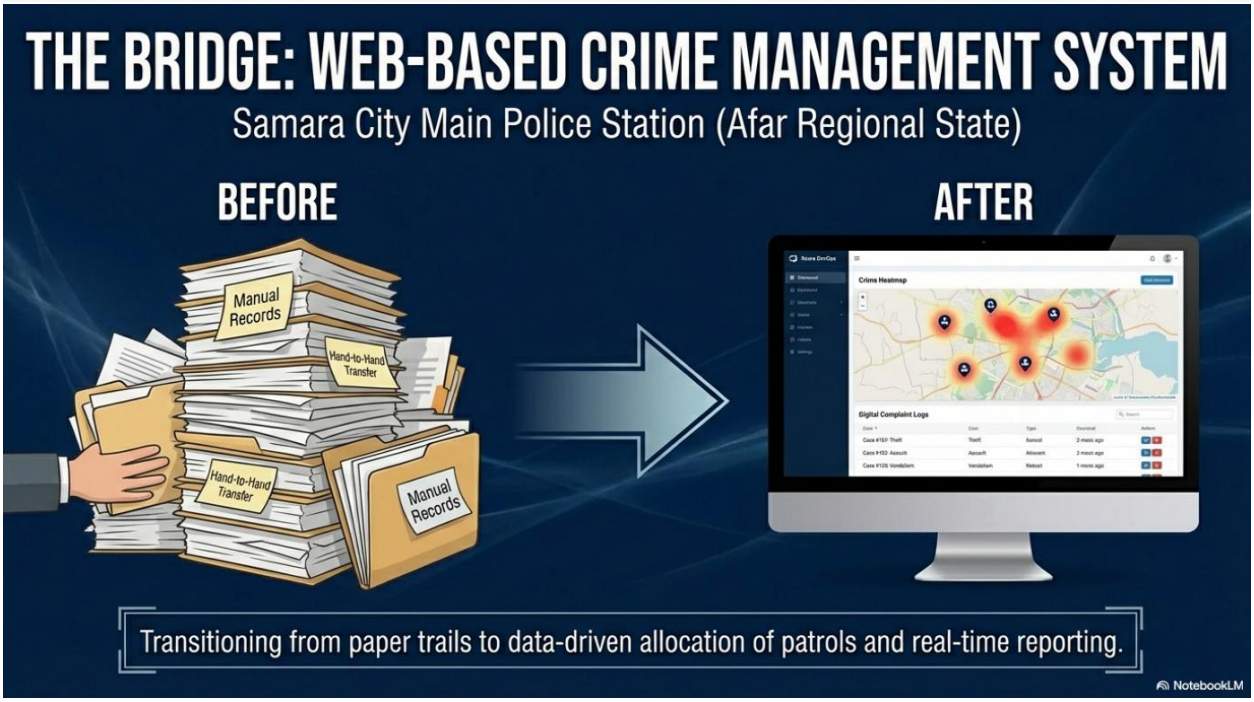
$$P = \frac{1}{T} \int u \cdot i \, dt$$

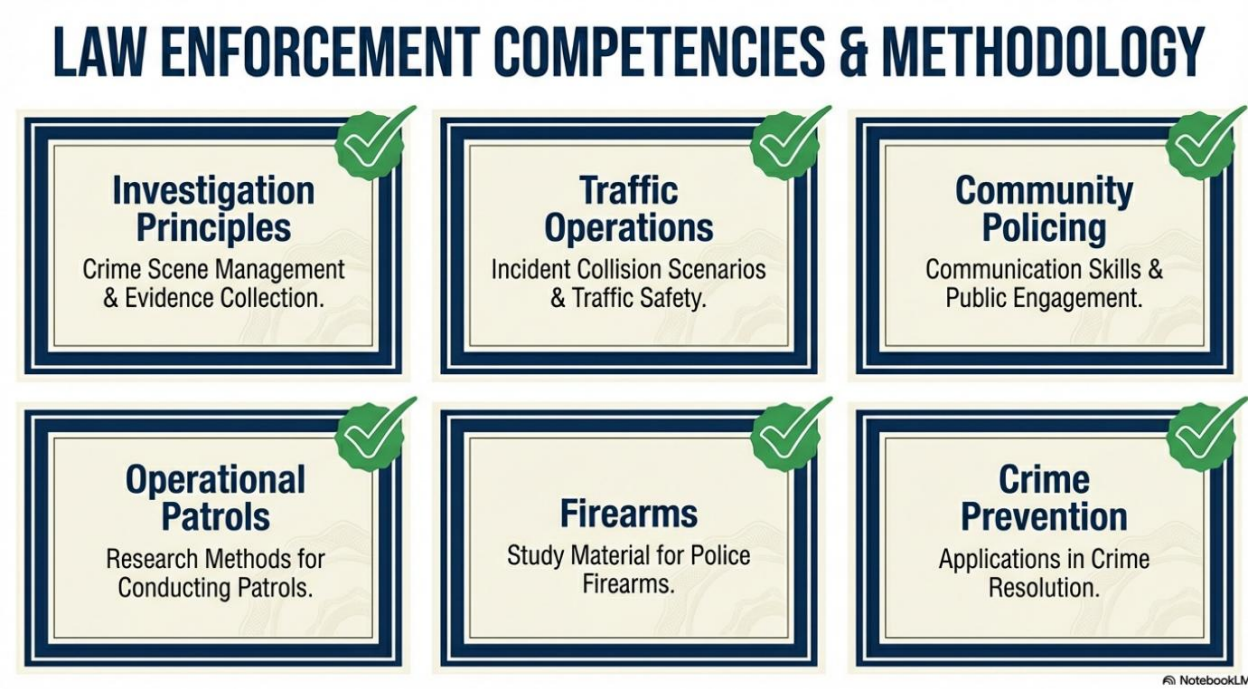
NotebookLM


INDUSTRIAL AUTOMATION & PLC PROGRAMMING
5000 00 FF 03ff 0000 18 000a...
Ladder Logic
Step 1
Step 2
Step 3
CPU Inspector Data
Device Code (D*)
Base Address (0002)
Equipment Integration
Experience with Tesys TLTMR (Motor Management Controller)
• Commissioning
• Wiring Diagrams
• Output Interposing Relays
NotebookLM

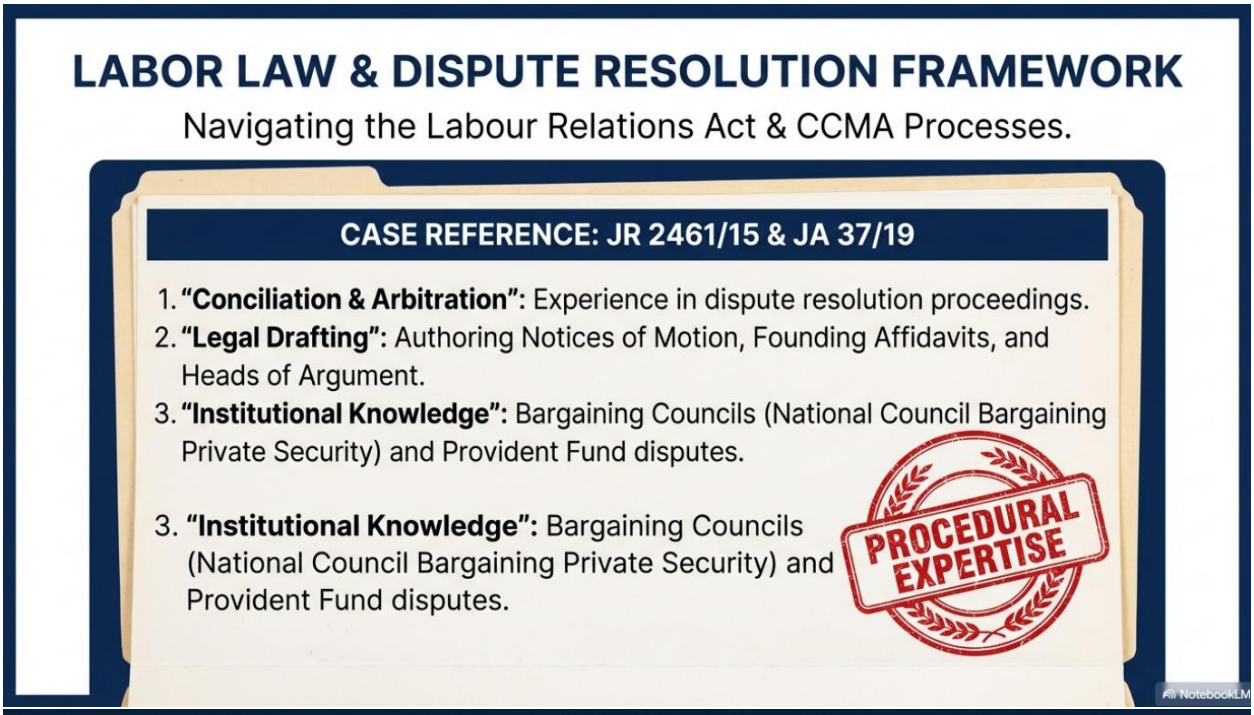

SOFTWARE DEVELOPMENT: ATM TRANSACTION SYSTEMS
ATM_Transaction.vb
Const pin as integer = 9343
Private function deposit (by ref amount as decimal)
Balance = amount
Const service_charge as decimal = 6.5
End Function
Azure DevOps
Board
Backlogs
Sprints
Search
To Do
Doing
Done
Pin Verification Logic
ID: #412 | Status: In Progress
Transaction Database Sync
ID: #415 | Status: In Progress
NotebookLM

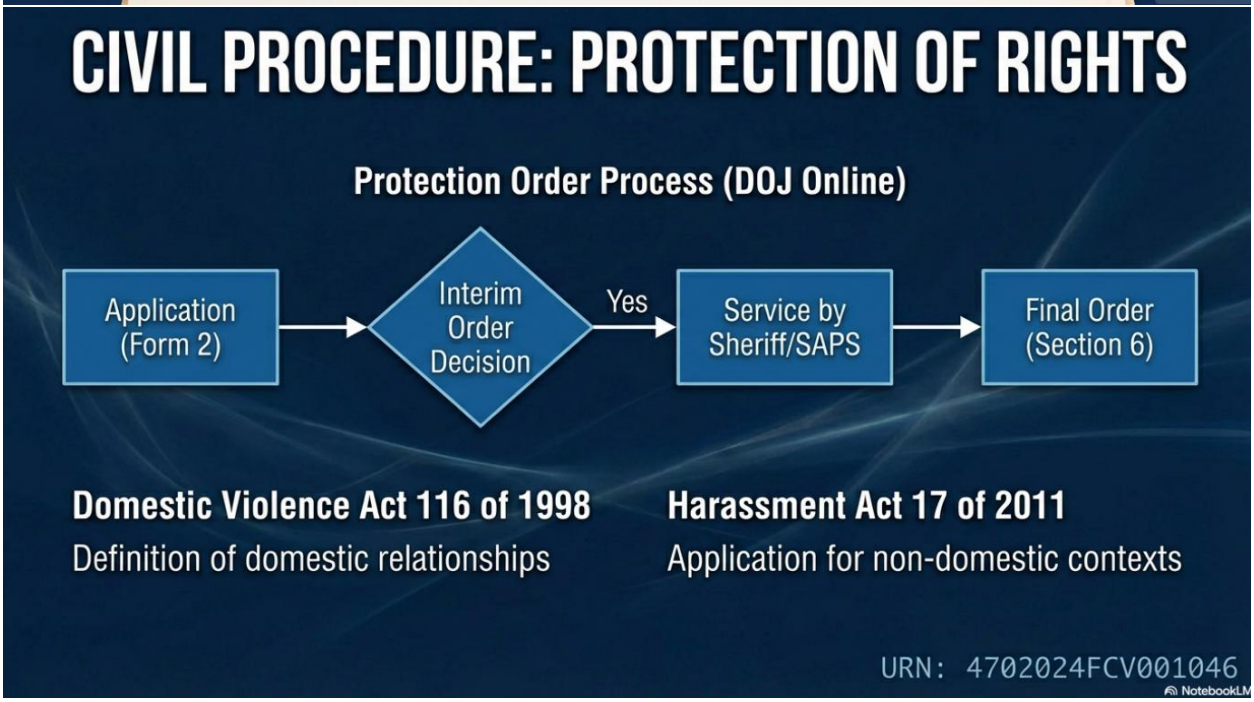

DATABASE MANAGEMENT: STUDENT REGISTRATION SYSTEM
UserForm
Student Registration Form
Student Name
Gender: Male Female
Father Name
Date of Birth
Mobile Number
Email ID
Submit
Reset
Upload Photo
VBA Logic
ValidEmail (Regex Pattern Matching)
IsNumeric (Mobile Number Check)
Automated Row Insertion
(iRow = shDatabase.Range...)
NotebookLM

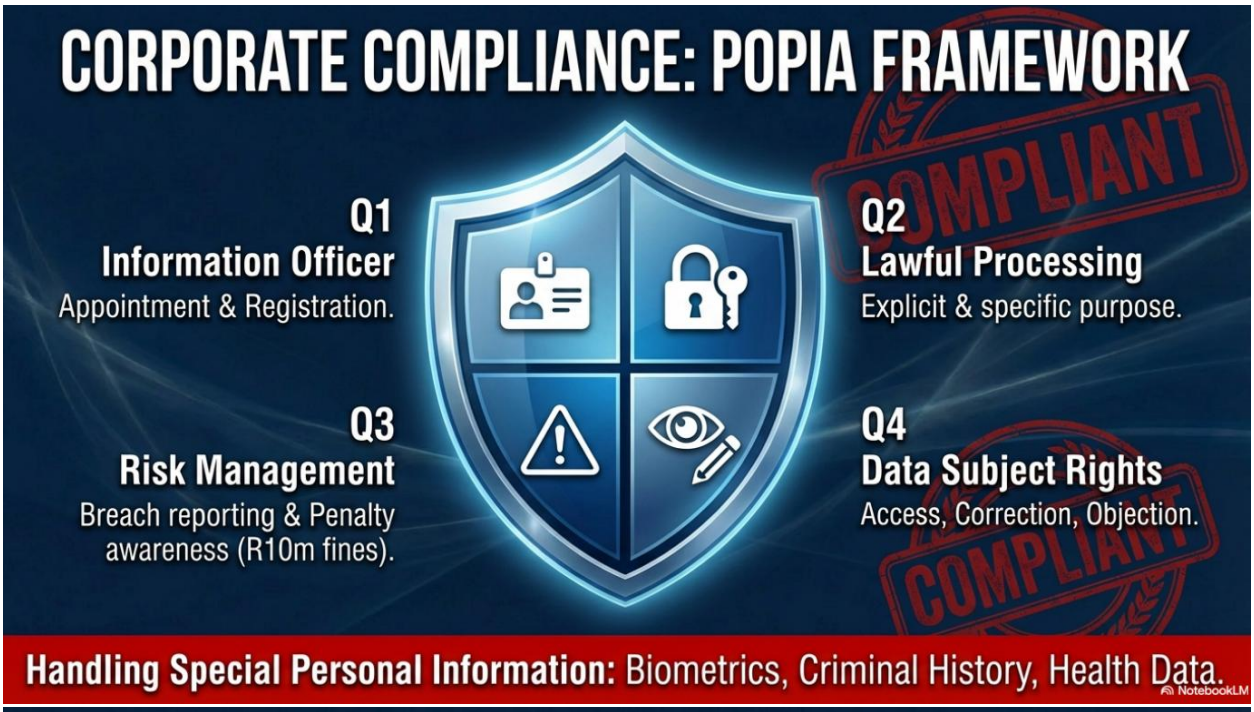

THE BRIDGE: WEB-BASED CRIME MANAGEMENT SYSTEM
Samara City Main Police Station (Afar Regional State)
BEFORE
AFTER
Manual Records
Hand-to-Hand Transfer
Hand-to-Hand Transfer
Manual Records
Crime Heatmap
Digital Complaint Logs
Transitioning from paper trails to data-driven allocation of patrols and real-time reporting.
NotebookLM


LAW ENFORCEMENT COMPETENCIES & METHODOLOGY
Investigation Principles
Crime Scene Management & Evidence Collection.
Traffic Operations
Incident Collision Scenarios & Traffic Safety.
Community Policing
Communication Skills & Public Engagement.
Operational Patrols
Research Methods for Conducting Patrols.
Firearms
Study Material for Police Firearms.
Crime Prevention
Applications in Crime Resolution.
NotebookLM

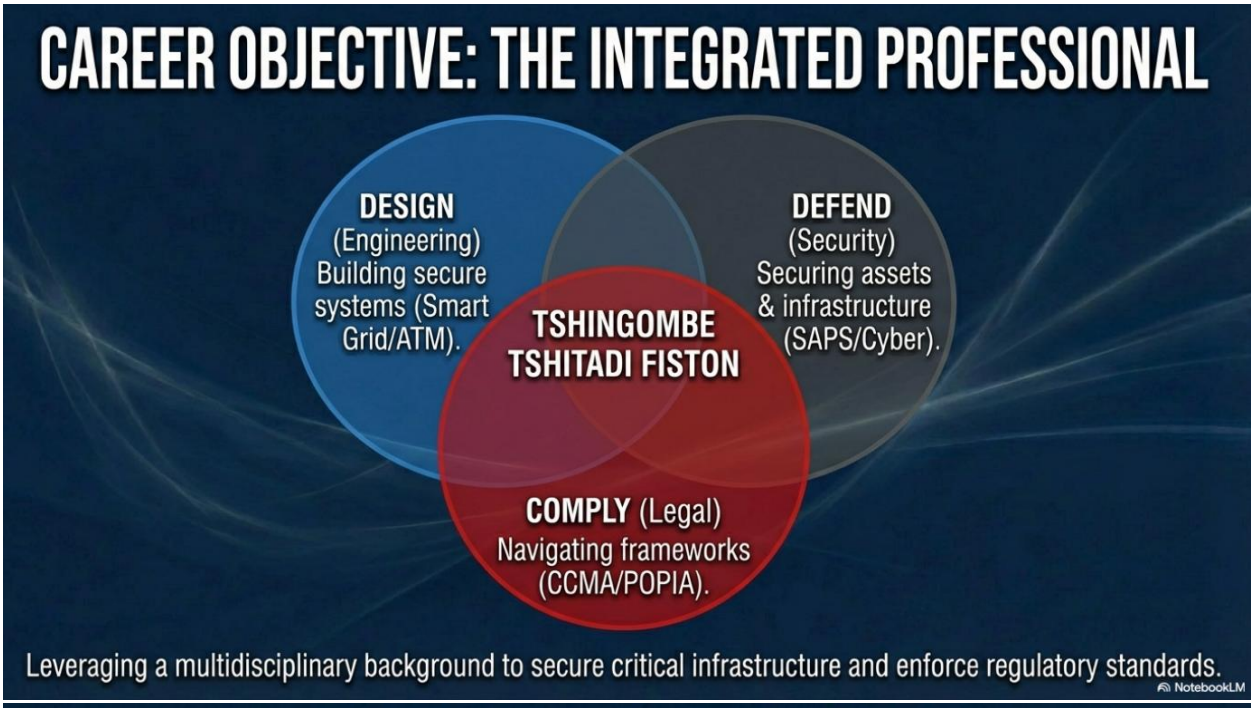
SECURITY OPERATIONS & INDUSTRY COMPLIANCE
PSIRA Registered
Private Security Industry Regulatory Authority Compliance.
Sub Section Commander: Shifts
Hillbrow Station Context. Managing sector vehicles and advising Station Commander on unrest.
Operational Management
Experience with Nogada SA & Section One Protection.
High Security Environments
Banking Sector & High Security Modules.
NotebookLM


LABOR LAW & DISPUTE RESOLUTION FRAMEWORK
Navigating the Labour Relations Act & CCMA Processes.
CASE REFERENCE: JR 2461/15 & JA 37/19
1. "Conciliation & Arbitration": Experience in dispute resolution proceedings.
2. "Legal Drafting": Authoring Notices of Motion, Founding Affidavits, and Heads of Argument.
3. "Institutional Knowledge": Bargaining Councils (National Council Bargaining Private Security) and Provident Fund disputes.
3. "Institutional Knowledge": Bargaining Councils (National Council Bargaining Private Security) and Provident Fund disputes.
PROCEDURAL EXPERTISE
NotebookLM


CIVIL PROCEDURE: PROTECTION OF RIGHTS
Protection Order Process (DOJ Online)
Application (Form 2)
Interim Order Decision
Yes
Service by Sheriff/SAPS
Final Order (Section 6)
Domestic Violence Act 116 of 1998
Definition of domestic relationships
Harassment Act 17 of 2011
Application for non-domestic contexts
URN: 4702024FCV001046
NotebookLM


CORPORATE COMPLIANCE: POPIA FRAMEWORK
Q1
Information Officer
Appointment & Registration.
Q2
Lawful Processing
Explicit & specific purpose.
Q3
Risk Management
Breach reporting & Penalty awareness (R10m fines).
Q4
Data Subject Rights
Access, Correction, Objection.
COMPLIANT
COMPLIANT
Handling Special Personal Information: Biometrics, Criminal History, Health Data.
NotebookLM

ACADEMIC & PROFESSIONAL QUALIFICATIONS
St Peace College
Engineering & Assessment Police (AIP).
Alison
Engineering Diploma (2024).
Schneider Electric
Assessment Expert (2024).
Eaton
Security Engineering (2025).
Certifications
• Microsoft: Security Policy Information System, Azure Defender (2022)
• Met Police UK (Online): Detective Inspector / Recruitment Training
• Foundation: Nated Courses & Trade Theory
URN: 4702024FCV001046
NotebookLM


CAREER OBJECTIVE: THE INTEGRATED PROFESSIONAL
DESIGN
(Engineering)
Building secure systems (Smart Grid/ATM).
DEFEND
(Security)
Securing assets & infrastructure (SAPS/Cyber).
TSHINGOMBE TSHITADI FISTON
COMPLY (Legal)
Navigating frameworks (CCMA/POPIA).
Leveraging a multidisciplinary background to secure critical infrastructure and enforce regulatory standards.
NotebookLM

CONTACT & REFERENCES
Business Card
Tshingombe Tshitadi Fiston
Percy Street, Johannesburg, Gauteng
072 529 8946
tshingombefiston@gmail.com
Professional References
• Nogada SA (Security Operations)
• Section One Protection (info@sectionprotection.co.za)
• SAPS Hillbrow (Application Context)
URN: 4702024FCV001046
NotebookLM

Anatomy of a Three-Phase Smart Power Meter

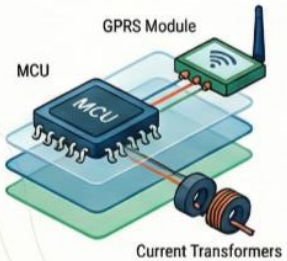
Core Functionality & Components

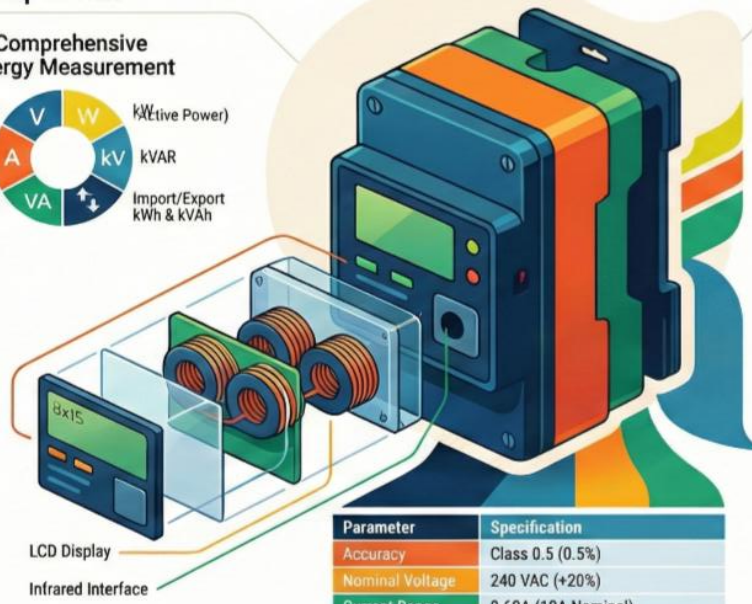
A Smart Meter for Three-Phase Power

Designed as a three-phase AC static watt-hour smart meter for advanced energy monitoring.

Comprehensive Energy Measurement

Key Internal Components



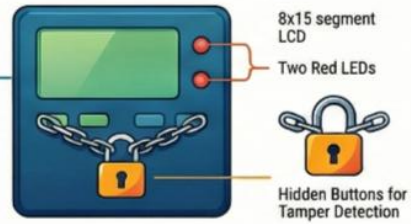


Parameter	Specification
Accuracy	Class 0.5 (0.5%)
Nominal Voltage	240 VAC (+20%)
Current Range	0-60A (10A Nominal)

Key Technical Specifications

Remote & Local Communication

User Interface & Tamper Detection



NotebookLM

Understanding Protection Orders in South Africa: Your Legal Path to Safety

A guide to the two types of legal protection orders and the process for obtaining one, offering immediate, interim protection while the court considers making the order final.

WHICH PROTECTION ORDER DO YOU NEED?

Domestic Violence Protection Order (DPO)

For abuse from someone you have a domestic relationship with (e.g., family, partner, roommate).

Relationship Required: Yes (domestic relationship)

Pattern of Abuse: Requires a pattern of abusive actions

Examples: Physical, sexual, financial, emotional abuse

Harassment Protection Order (HPO)

For abuse from someone you are not in a domestic relationship with (e.g., a neighbor).

Relationship Required: No relationship required

Pattern of Abuse: A single incident can be sufficient

Examples: Unwanted messages, stalking, financial harm

THE 5-STEP PROCESS TO GET A PROTECTION ORDER

1 Apply at the Magistrate's Court

Complete the required application form (Form 3) with a detailed affidavit explaining the abuse.

2 Obtain an Interim Order

The court reviews your application and may issue a temporary order for immediate protection.

3 Serve the Order

The interim order must be officially served on the respondent by a sheriff or police officer.

4 Attend the Court Hearing

The court hears evidence to decide whether to grant a permanent, final protection order.

5 What if the Order is Violated?

Breaching a protection order is a criminal offense punishable by a fine or up to 5 years in prison.

NotebookLM

The Audit-Grade Career Engine: A Blueprint for Verifiable Competence

Synthesizing Engineering, Education, and Automation into a Unified Credentialing Framework.

A modular framework that synthesizes formal education, vocational training, and workplace experience into a single, auditable system.

Author: Tshingombe Tshitadi Fiston | **Status:** Audit-Ready | **System:** Unified Framework

NotebookLM

A Paradox of Prolific Output vs. Systemic Hurdles

SYSTEMIC HURDLES

PROLIFIC OUTPUT

F1000 Research: Career Project Implementation
- PUBLISHED (Peer Reviewed Data)

Data: 1100	Technical: Data

GitHub: career-discovery-science-mentoring
- ACTIVE REPOSITORY

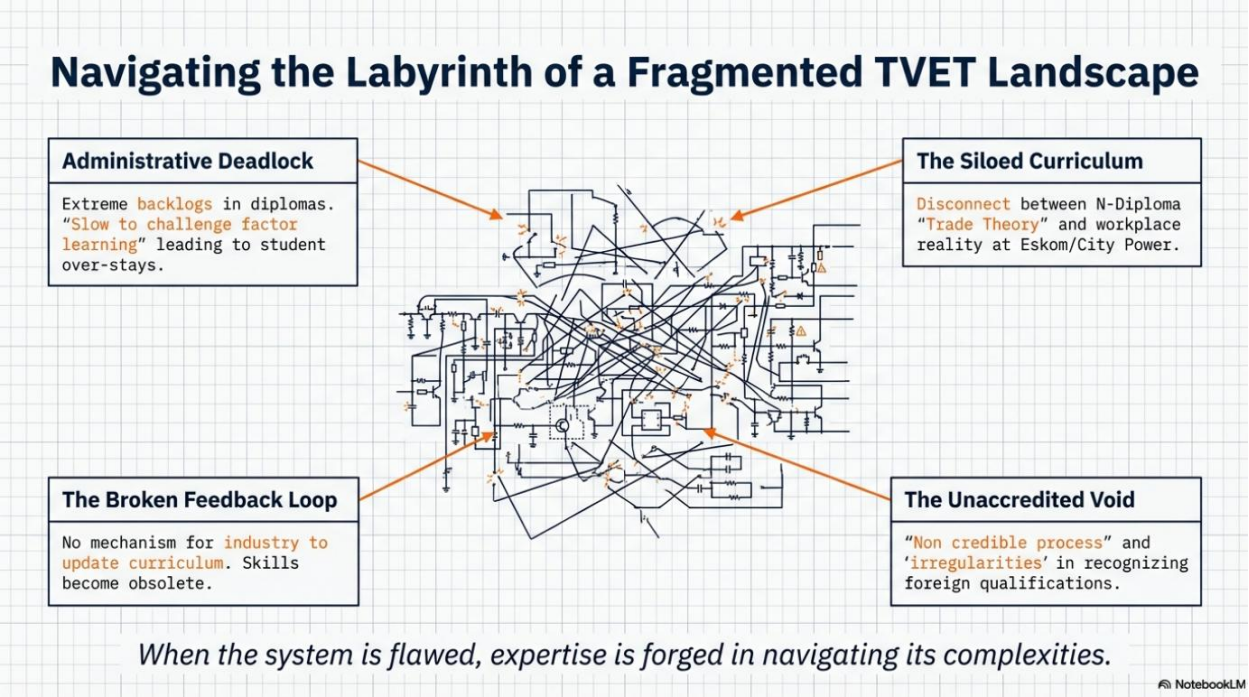
(Code & Documentation, Last Commit: Today)

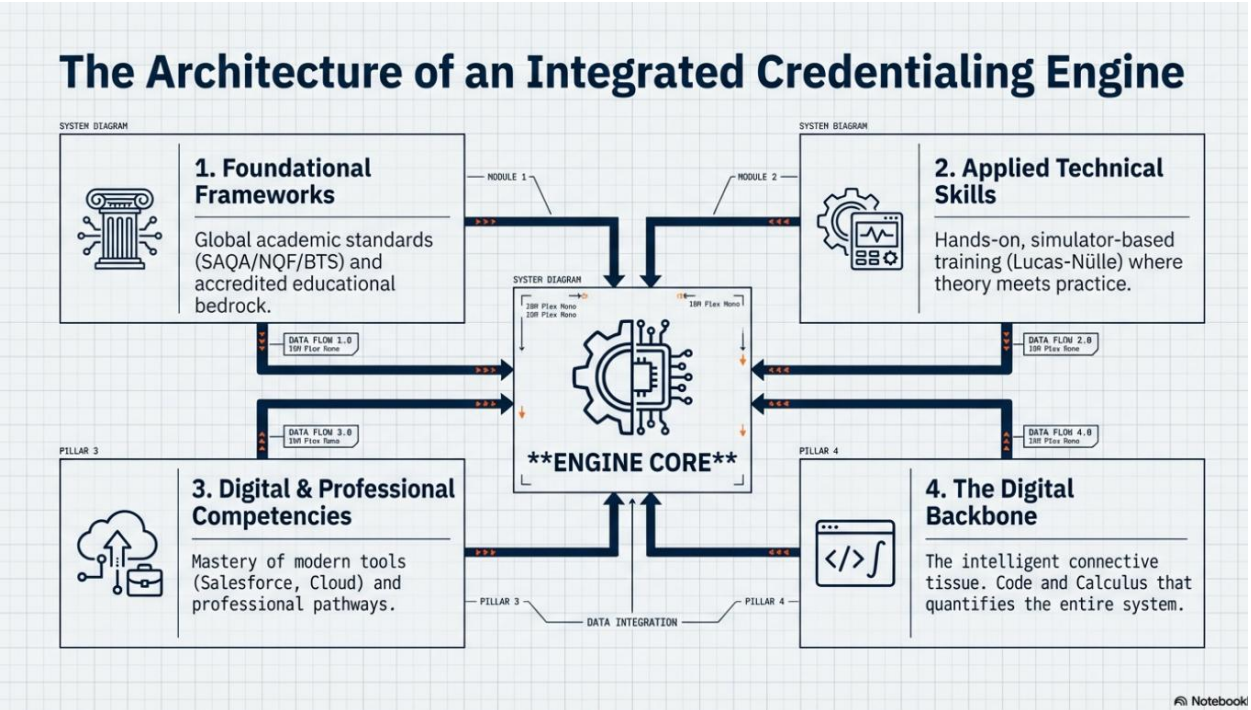
Alison: First Module for Evaluation
- CREATED (2025-04-09)

Test Beats 04-09	(Curriculum & Assessment)

Insight: The official record says “Rejected.” The innovation record says “Accelerated.” The system cannot measure the output.

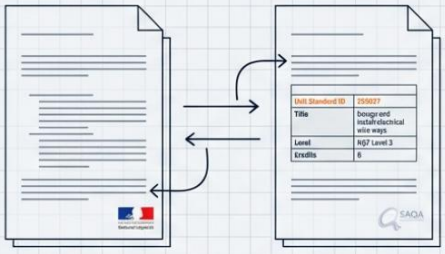
NotebookLM


Navigating the Labyrinth of a Fragmented TVET Landscape
Administrative Deadlock
Extreme backlogs in diplomas. "Slow to challenge factor learning" leading to student over-stays.
The Siloed Curriculum
Disconnect between N-Diploma "Trade Theory" and workplace reality at Eskom/City Power.
The Broken Feedback Loop
No mechanism for industry to update curriculum. Skills become obsolete.
The Unaccredited Void
"Non credible process" and 'irregularities' in recognizing foreign qualifications.
When the system is flawed, expertise is forged in navigating its complexities.
NotebookLM


The Architecture of an Integrated Credentialing Engine
SYSTEM DIAGRAM
1. Foundational Frameworks
Global academic standards (SAQA/NQF/BTS) and accredited educational bedrock.
SYSTEM DIAGRAM
2. Applied Technical Skills
Hands-on, simulator-based training (Lucas-Nülle) where theory meets practice.
MODULE 1
MODULE 2
SYSTEM DIAGRAM
ENGINE CORE
DATA FLOW 1.0
DATA FLOW 2.0
DATA FLOW 3.0
DATA FLOW 4.0
PILLAR 3
3. Digital & Professional Competencies
Mastery of modern tools (Salesforce, Cloud) and professional pathways.
PILLAR 4
4. The Digital Backbone
The intelligent connective tissue. Code and Calculus that quantifies the entire system.
PILLAR 3
DATA INTEGRATION
PILLAR 4
NotebookL

Pillars 1 & 2: Anchoring Competence in Standards and Practice

Foundational Frameworks

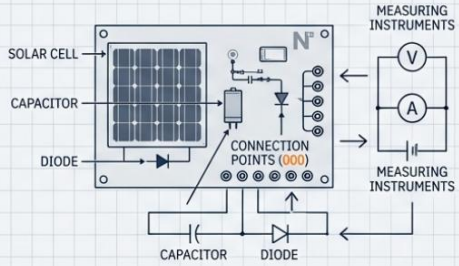


France (BTS):
'Brevet de Technicien Supérieur'. Structured in 'blocs de compétences' for modular validation.

South Africa (SAQA/NQF):
Unit Standard ID 259037: Design and install electrical wire ways (NQF Level 3).

Qualification	National Certificate: Electrical Engineering (ID 72071)
Unit Standard ID	259037
Title	Design and install electrical wire ways
Level	NQF Level 3
Credits	8

Applied Technical Skills



Lucas-Nülle Systems: From didactic theory to 'Fault Simulation' and real-time diagnostics.

Indian Vocational Training (ITI): NIMI Curriculum for Electrician Trade (NSQF Level 5) - Practical exercises in wiring and soldering.

NIMI Curriculum: Electrician (NSQF Level 5)	
Module No.:	3
Module Title:	Wires, Joints - Soldering - U.G. Cables
Allocated Time:	125 Hrs

Pillar 3: Mastering the Tools of the Digital Economy

Enterprise Cloud Platforms

Salesforce Career Pathways (**Technical Architect**, **API Integration**, **ETL**). Structured learning for enterprise ecosystems.

Advanced Computing Paradigms

Cloud Computing & **Big Data** (**Hadoop**, **Spark**).
Spatial Computing in Telecommunications for network optimization.

Digital Credentialing

BlockMark Technologies

Transitioning from paper to **BlockMark Technologies**.
Issuing **blockchain-stamped certificates** to ensure audit-grade traceability and security.

Pillar 4: The Digital Backbone - Code and Calculus

```
Type CalculationRecord
    DateStamp As Date
    Topic As String
    MethodUsed As String
    ResultSummary As String
    Award As String
    RewardPoints As Integer
End Type
```

Total Engagement:

$$E_{total} = \int_0^T E(t)\,dt$$

Total Energy Harvested:

$$E = \int_0^T \left(\frac{1}{2}\rho A v^3 \eta\right) dt$$

Task Completion Rate:

$$\frac{dN}{dt}$$

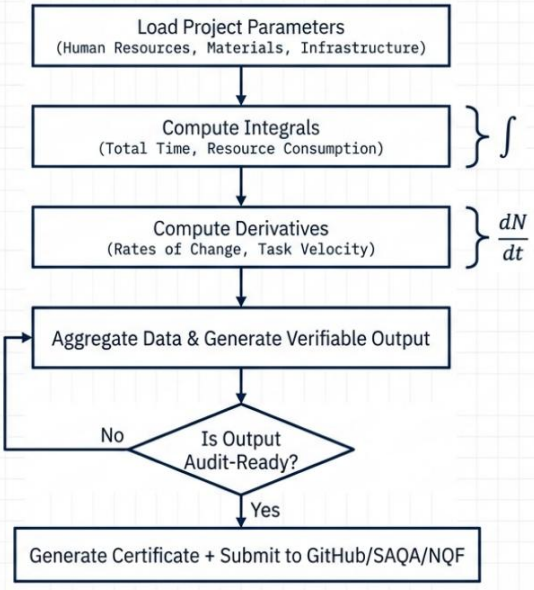
We do not just record attendance; we integrate total engagement and derive velocity.

AUDIT-GRADE ENGINEERING

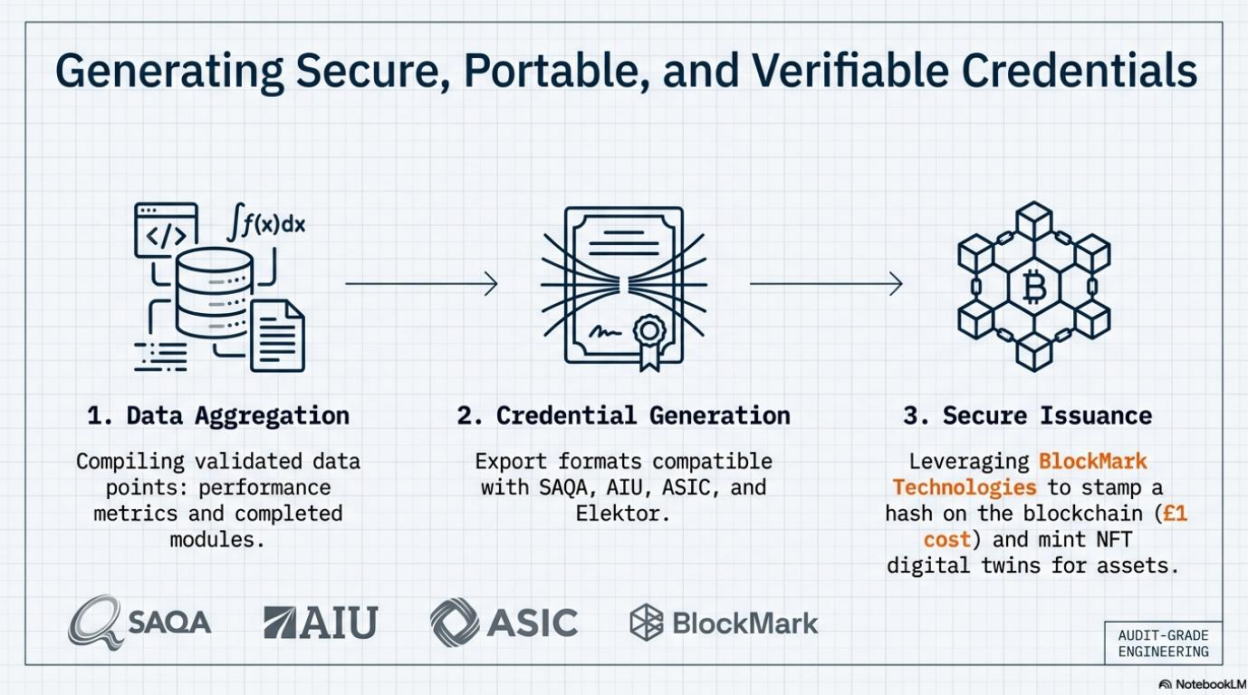
NotebookLM

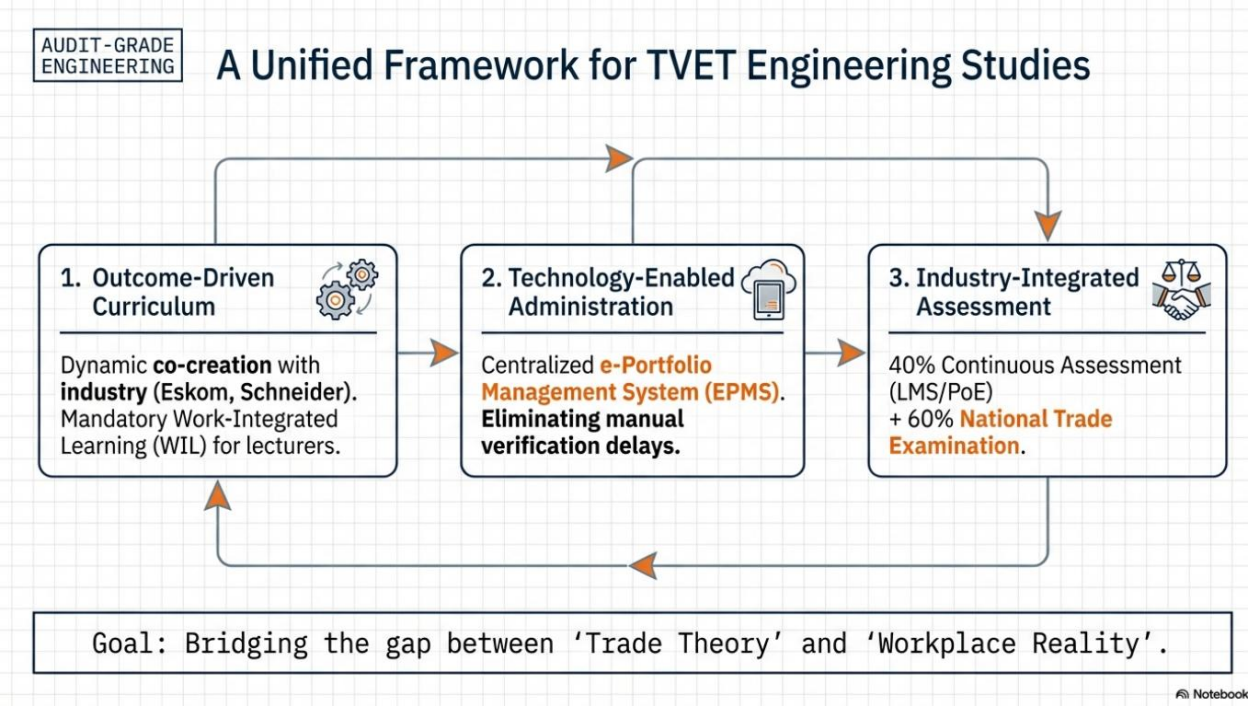
AUDIT-GRADE ENGINEERING

An Automated, End-to-End Credentialing Workflow



NotebookLM

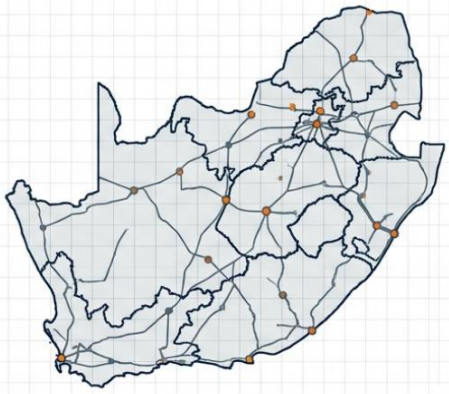

Generating Secure, Portable, and Verifiable Credentials
1. Data Aggregation
Compiling validated data points: performance metrics and completed modules.
2. Credential Generation
Export formats compatible with SAQA, AIU, ASIC, and Elektor.
3. Secure Issuance
Leveraging BlockMark Technologies to stamp a hash on the blockchain (£1 cost) and mint NFT digital twins for assets.
SAQA
AIU
ASIC
BlockMark
AUDIT-GRADE ENGINEERING
NotebookLM


AUDIT-GRADE ENGINEERING
A Unified Framework for TVET Engineering Studies
1. Outcome-Driven Curriculum
Dynamic co-creation with industry (Eskom, Schneider). Mandatory Work-Integrated Learning (WIL) for lecturers.
2. Technology-Enabled Administration
Centralized e-Portfolio Management System (EPMS). Eliminating manual verification delays.
3. Industry-Integrated Assessment
40% Continuous Assessment (LMS/PoE) + 60% National Trade Examination.
Goal: Bridging the gap between 'Trade Theory' and 'Workplace Reality'.
Notebook

S.E.E.E.I.S.U.A: Energy-Efficient Industrial Systems Framework

Support for Energy-Efficient Electrical & Industrial Systems in South Union Africa.

1. **Dispatch & Interconnect**: Managing 50,000 MW capacity / R50 billion budget forecast.
2. **Conflict Resolution*: Addressing metering discrepancies (Conflict Load: 70,000 MW).
3. **Substation Logic*: Demolition and remanufacture protocols for aging infrastructure.
4. **Standard*: Harmonizing regulation between municipalities and city power authorities.



$$\text{Efficiency} = \frac{\text{Output Power}}{\text{Input Power}} \times 100$$

AUDIT-GRADE ENGINEERING

NotebookLM

AUDIT-GRADE ENGINEERING
APPROVED PROTOCOL
IBM Plex Mono

Operational Standards: GENIAC and GENIE CORP Protocols

SPEC SHEET / STANDARD OPERATING PROCEDURE – VERIFIED TECHNICAL DOSSIER

Logic & Control Protocols

GENIAC: Logic-based control systems for metering and dispatch.

- **System Architecture:** Distributed Logic Controller (DLC) Network.
- **Function:** Real-time metering data acquisition and load dispatch optimization.
- **Protocol Identifier:** GEN-LCS-v4.2 (CRC: 0xA3F9B2E1).
- **Key Feature:** Autonomous Fault Detection & Isolation.

GENIE CORP: Military-grade electrotechnical protocols.

- **Implementation Standards:** Hardened Electromechanical Interfaces (HEI).
- **Function:** Secure, high-reliability communication for critical infrastructure components.
- **Protocol Identifier:** G-CORP-MIL-v2.1 (CRC: 0x8E4D7A1C).
- **Key Feature:** EMP/HPM Resilience.

MIL-STD Integration

MIL-STD INTEGRATED

- **MIL-STD-810:** Environmental Engineering (Ruggedness).
  - **Scope:** Temperature Extremes, Vibration, Shock, Humidity, Dust.
  - **Compliance:** Procedure I (Mechanical Shock) & Procedure II (Vibration).
- **MIL-STD-461:** Electromagnetic Compatibility.
  - **Scope:** Radiated and Conducted Emissions, Susceptibility.
  - **Compliance:** CS116 (Damped Sinusoidal Transients) & RS103 (Radiated Susceptibility).
- **MIL-STD-882:** System Safety.
  - **Scope:** Hazard Analysis, Risk Assessment, Safety Critical Functions.
  - **Compliance:** Level A Criticality (Catastrophic Failure Prevention).

Innovation: Integrated MIL-STD logic into civilian infrastructure to ensure reliability in **City Power grids**.

NotebookLM

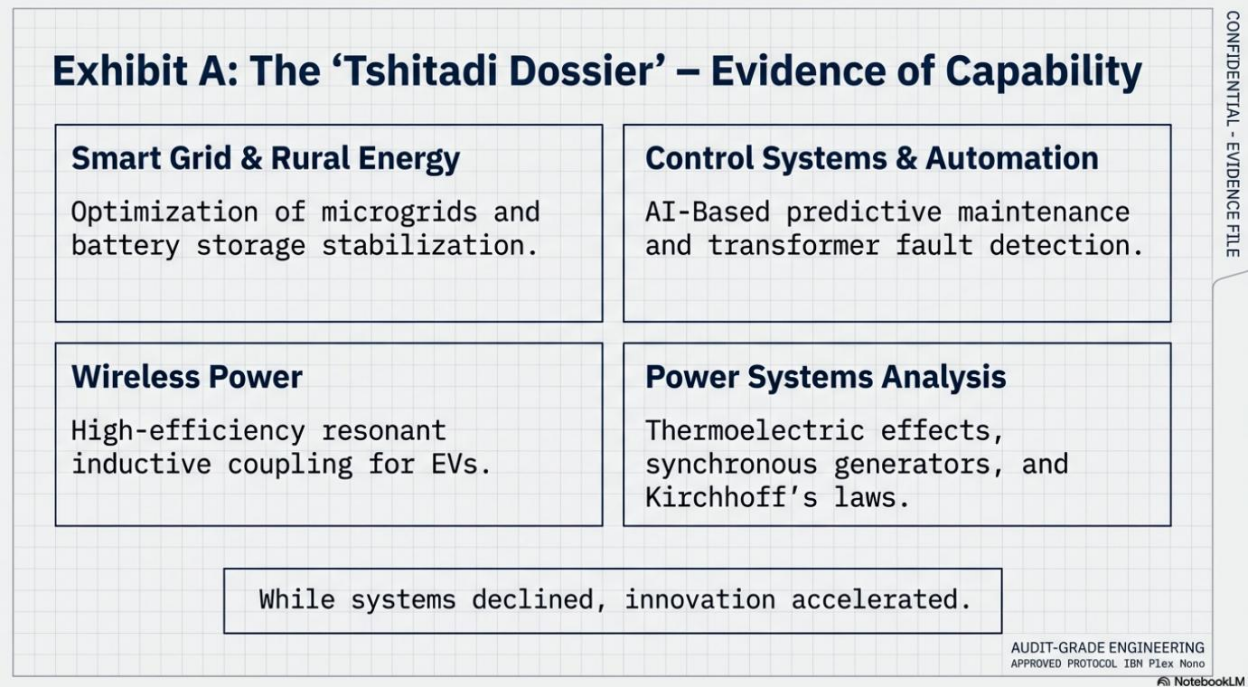
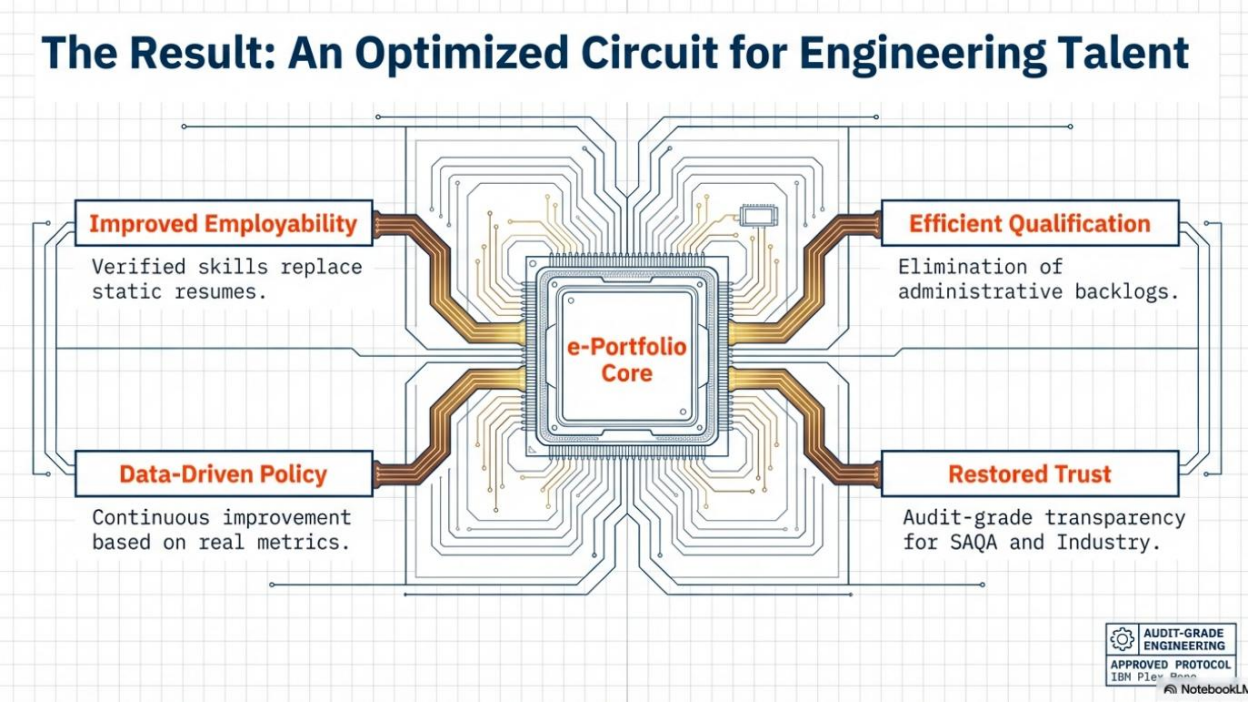


Exhibit A: The 'Tshitadi Dossier' – Evidence of Capability
Smart Grid & Rural Energy
Optimization of microgrids and battery storage stabilization.
Control Systems & Automation
AI-Based predictive maintenance and transformer fault detection.
Wireless Power
High-efficiency resonant inductive coupling for EVs.
Power Systems Analysis
Thermoelectric effects, synchronous generators, and Kirchhoff's laws.
While systems declined, innovation accelerated.
CONFIDENTIAL - EVIDENCE FILE
AUDIT-GRADE ENGINEERING
APPROVED PROTOCOL IBM Plex Nono
NotebookLM


The Result: An Optimized Circuit for Engineering Talent
Improved Employability
Verified skills replace static resumes.
Efficient Qualification
Elimination of administrative backlogs.
e-Portfolio Core
Data-Driven Policy
Continuous improvement based on real metrics.
Restored Trust
Audit-grade transparency for SAQA and Industry.
AUDIT-GRADE ENGINEERING
APPROVED PROTOCOL
NotebookLM

Engage the Expertise. Recognize the Innovation.

The evidence demonstrates a sustained, high-level output of technical and pedagogical work against significant systemic friction. The challenge is no longer one of validation, but of recognition and engagement.

Adopt the Unified Framework. Implement the S.E.E.E.I.S.U.A protocols. Let us build the engine together.

Name:	Profile:	GitHub:	Email:	AUDIT-GRADE ENGINEERING
Tshingombe Tshitadi Fiston	archive.org/details/@rdferz	career-discovery-science-mentoring	tshingombefiston@gmail.com	APPROVED PROTOCOL IBM Plex Mono

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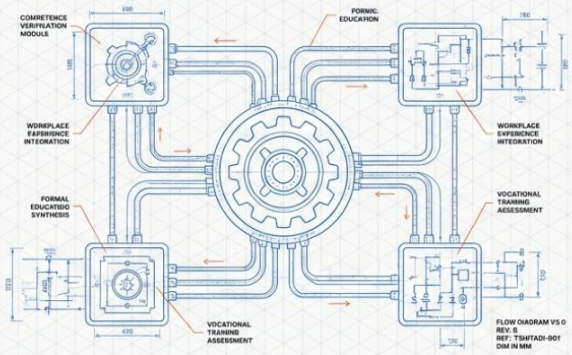
The Audit-Grade Career Engine

A Blueprint for Verifiable Competence and Systemic Reform

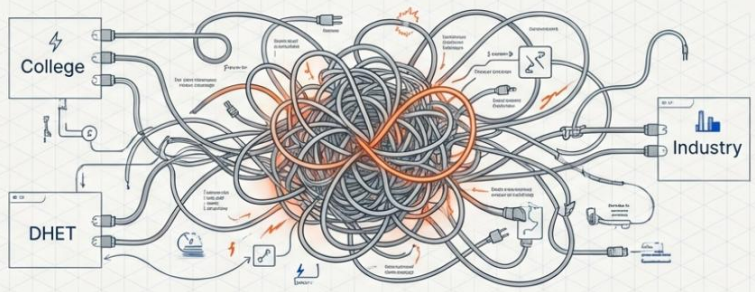


Based on the research and architectural design of Tshingombe Tshitadi Fiston.

PROJECT: TVET REFORM // REF: TSHITADI-001

NotebookLM

The Challenge: Navigating the Labyrinth



The Administrative Deadlock

Delays in "release result" and "marking in progress" create "overstay" students students.

Critical friction at DHET level leads to lost records and employability gaps.

The Siloed Curriculum

A profound disconnect between "Trade Theory" (Nated N1-N6) and the technology-driven operational needs technology-driven operational needs of modern utilities like Eskom and City Power.

The Feedback Gap

The absence of industry validation leads to "irregularities" in qualification recognition.

Assessment processes lack credibility, creating a void in verifiable skills.

NotebookLM

Exhibit A: The Paradox of Prolific Work

in DIN Next LT Pro, Deep Charcoal

Inter and JetBrains Mono.
Systemic Friction: Institutional barriers unrelated to merit.

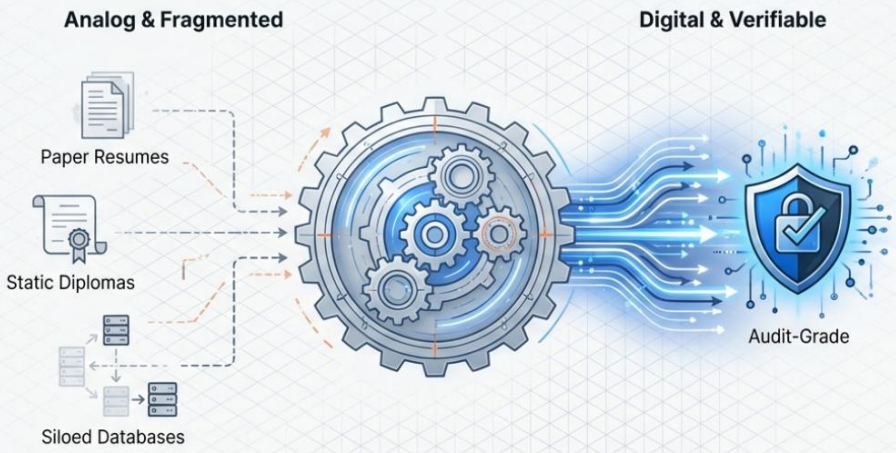
The Conflict:
While formal systems presented barriers barriers based on accreditation technicalities, a substantial body of applied research was consistently produced and validated globally.

`GitHub: career-discovery-science`
`Alison: Electrical Studies Diploma`

JetBrains Mono: `JetBrains Mono`.
Global Validation: High-velocity output on meritocratic platforms.

Confidential evidence file
NotebookLM

A New Paradigm for Credentialing



The Shift:

Moving from static, self-reported resumes to a modular system that maps every skill to a verifiable data point.

The Mechanism:

Utilization of a 'Quantitative Backbone' to measure outcomes—from project costs to energy harvested.

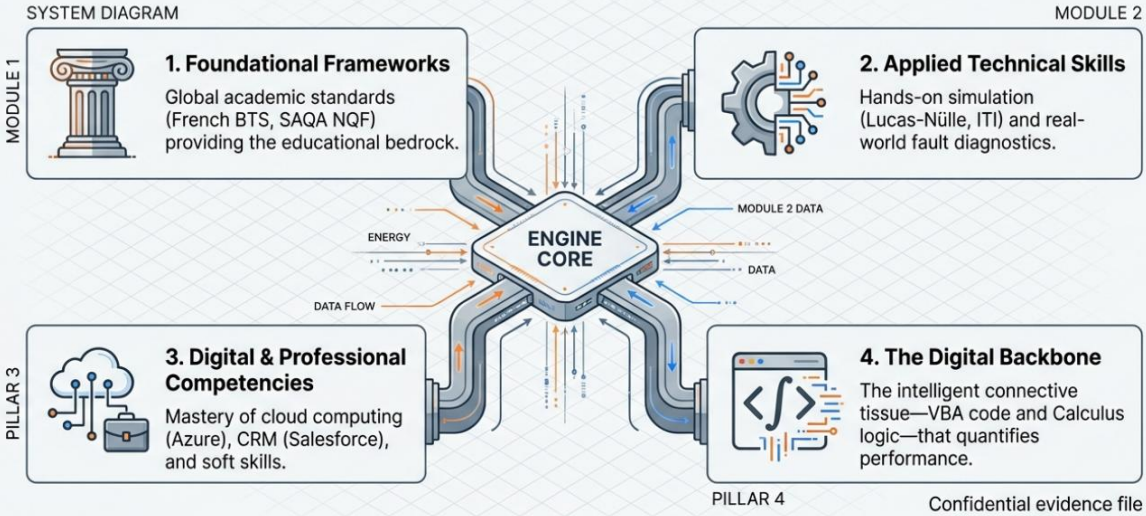
The Goal:

Generate documentation compatible with global bodies like SAQA, AIU, and ASIC.

Confidential evidence file

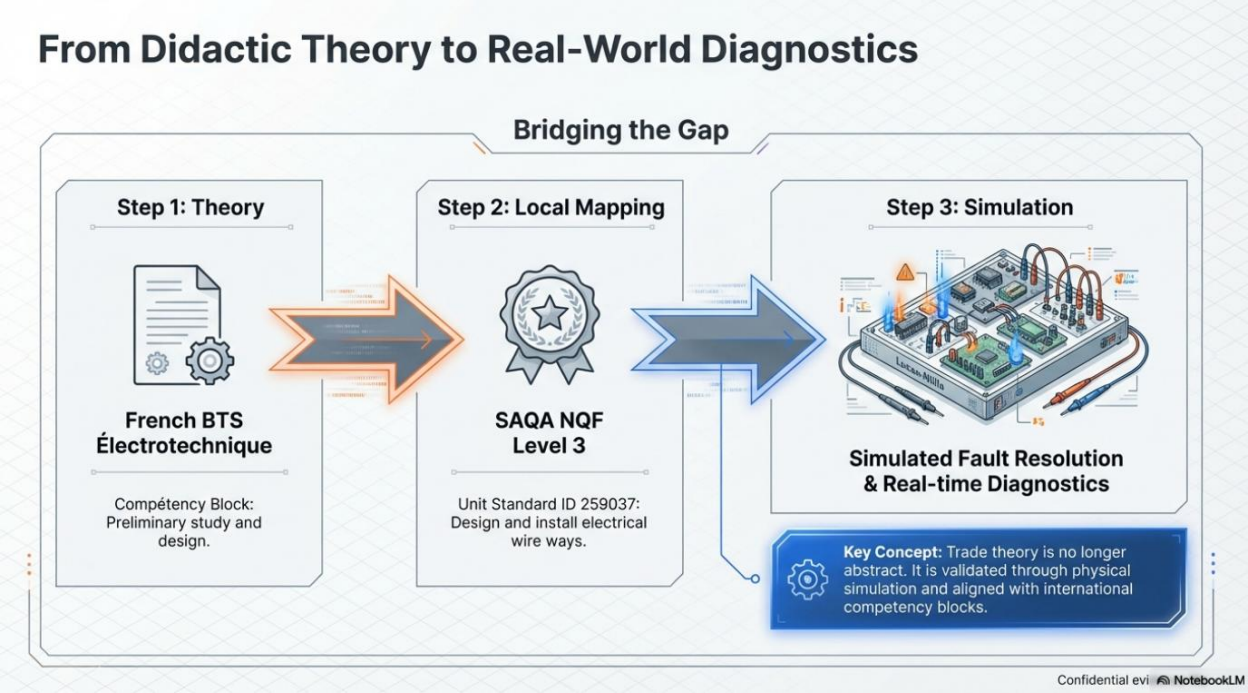
NotebookLM

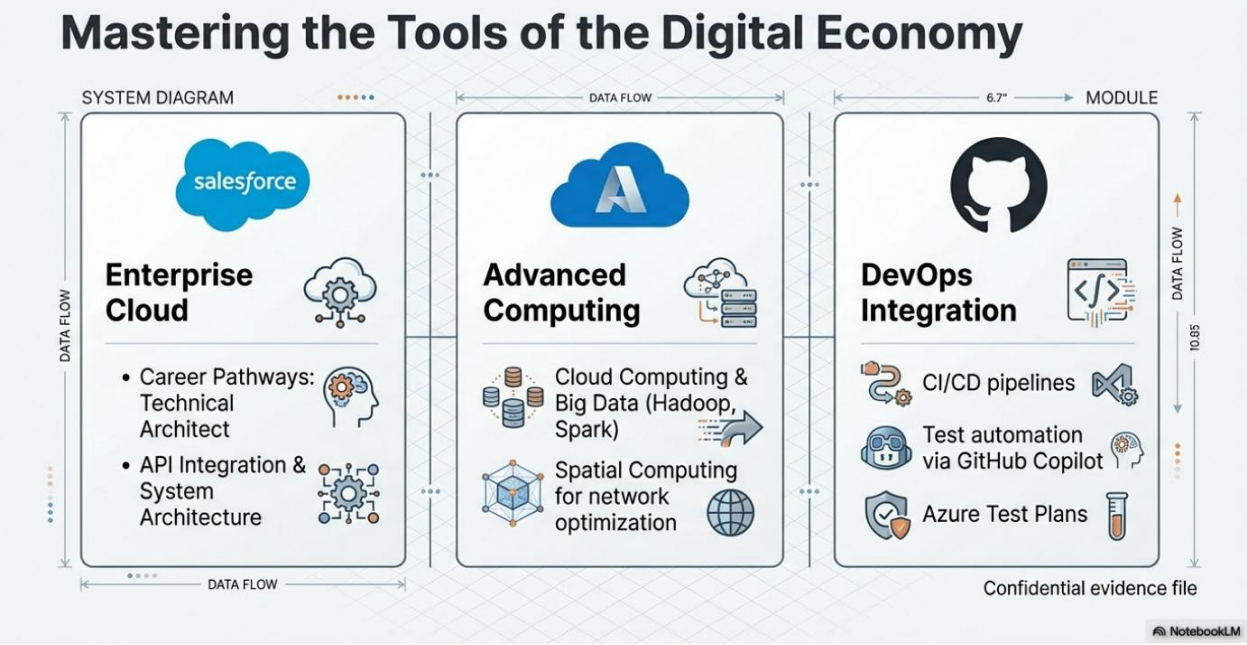
The Architecture: Four Pillars of Competence


SYSTEM DIAGRAM
MODULE 2
MODULE 1
1. Foundational Frameworks
Global academic standards (French BTS, SAQA NQF) providing the educational bedrock.
2. Applied Technical Skills
Hands-on simulation (Lucas-Nülle, ITI) and real-world fault diagnostics.
ENERGY
ENGINE CORE
MODULE 2 DATA
DATA
DATA FLOW
PILLAR 3
3. Digital & Professional Competencies
Mastery of cloud computing (Azure), CRM (Salesforce), and soft skills.
4. The Digital Backbone
The intelligent connective tissue—VBA code and Calculus logic—that quantifies performance.
PILLAR 4

Confidential evidence file

NotebookLM


From Didactic Theory to Real-World Diagnostics
Bridging the Gap
Step 1: Theory
French BTS Électrotechnique
Compétency Block: Preliminary study and design.
Step 2: Local Mapping
SAQA NQF Level 3
Unit Standard ID 259037: Design and install electrical wire ways.
Step 3: Simulation
Simulated Fault Resolution & Real-time Diagnostics
Key Concept: Trade theory is no longer abstract. It is validated through physical simulation and aligned with international competency blocks.
Confidential evi
NotebookLM


Mastering the Tools of the Digital Economy
SYSTEM DIAGRAM
DATA FLOW
6.7"
MODULE
salesforce
Enterprise Cloud
• Career Pathways: Technical Architect
• API Integration & System Architecture
Advanced Computing
Cloud Computing & Big Data (Hadoop, Spark)
Spatial Computing for network optimization
DevOps Integration
CI/CD pipelines
Test automation via GitHub Copilot
Azure Test Plans
DATA FLOW
10.05
DATA FLOW
Confidential evidence file
NotebookLM

The Connective Tissue: Code, Calculus, and Logic

VBA Automation Logic

</> CODE

```
Type CalculationRecord
    DateStamp As Date
    MethodUsed As String
    SimulationTool As String
    ResultSummary As String
End Type
```

Custom data structures ensure audit-grade data integrity.

Quantitative Analysis

∑∫ MATH

Total Engagement/Energy:

$$E_{total} = \int_0^T E(t)dt$$

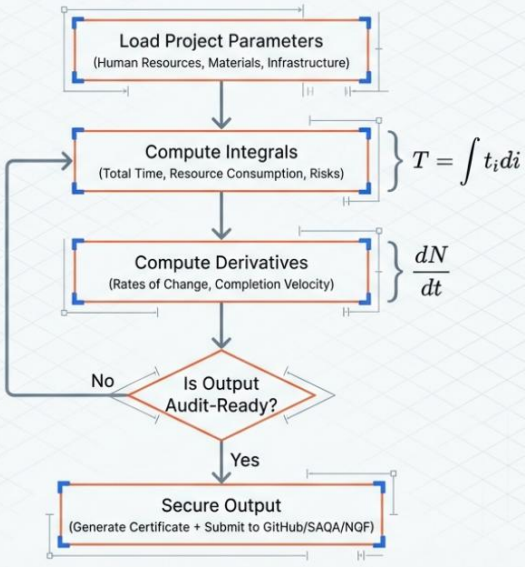
Rate of Task Completion:

$$\frac{dN}{dt}$$

Calculus integrals measure dynamic outputs like total energy harvested.

NotebookLM

The Automated Workflow: From Input to Audit



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The Result: A Verifiable Professional Identity

Stage 1: Data Aggregation

Compiles validated data points: performance metrics, curriculum blocks, and risk calculations.

Stage 2: Credential Generation

Generates export sheets compatible with international bodies (SAQA, AIU, ASIC).

Stage 3: Secure Issuance

Blockchain Integration via BlockMark Technologies. Mints digital twins to prevent "irregularities" and ensure authenticity.

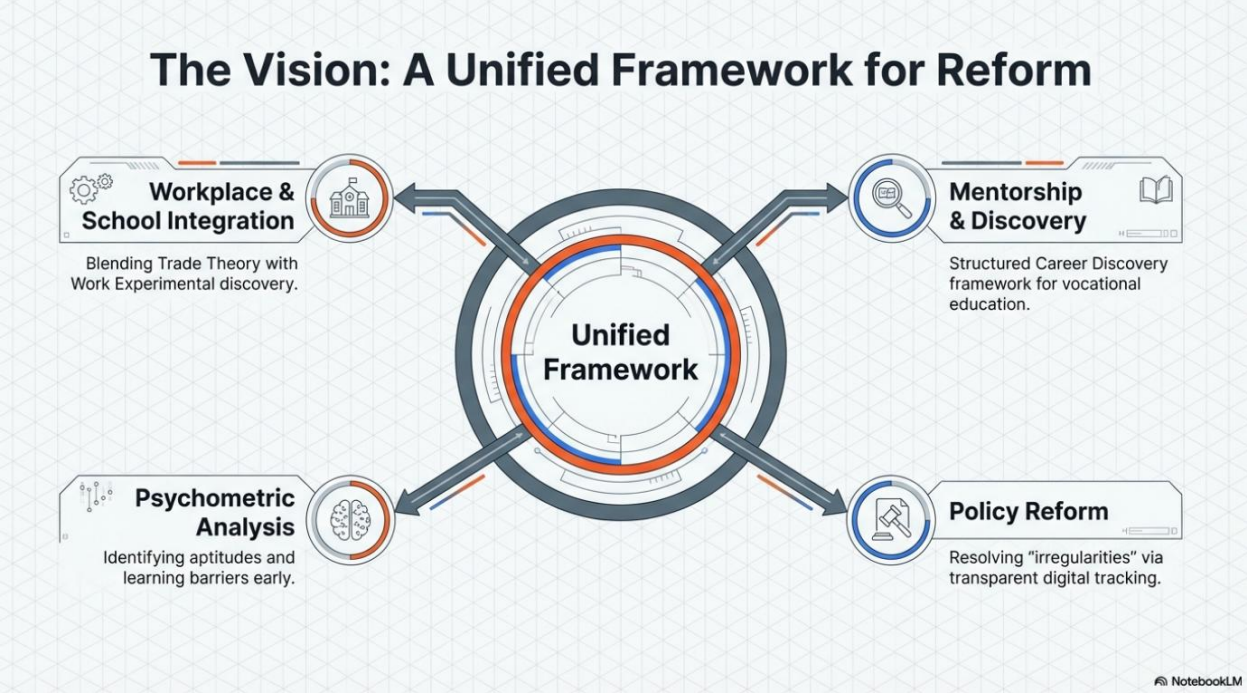
NotebookLM

DIN Next LT Pro: Applying the Logic: S.E.E.E.I.S.U.A.

Support for Energy-Efficient Electrical & Industrial Systems in South Union Africa

Inter
Unified regulatory framework for interregional energy dispatching and industrial metering. Conflict resolution for consumer-supplier discrepancies.
Inter
Scope & Harmonization
Inter
Integration of MIL-STD-810 (Environmental) and MIL-STD-461 (EMC) into civilian infrastructure ("Operation GENIAC") for maximum reliability.
Inter
Military-Grade Standards
Inter
Logic-based metering calibration.
Efficiency = Output Power / Input Power × 100
Inter
The Efficiency Formula

NotebookLM


The Vision: A Unified Framework for Reform
Workplace & School Integration
Blending Trade Theory with Work Experimental discovery.
Mentorship & Discovery
Structured Career Discovery framework for vocational education.
Unified Framework
Psychometric Analysis
Identifying aptitudes and learning barriers early.
Policy Reform
Resolving "irregularities" via transparent digital tracking.
NotebookLM

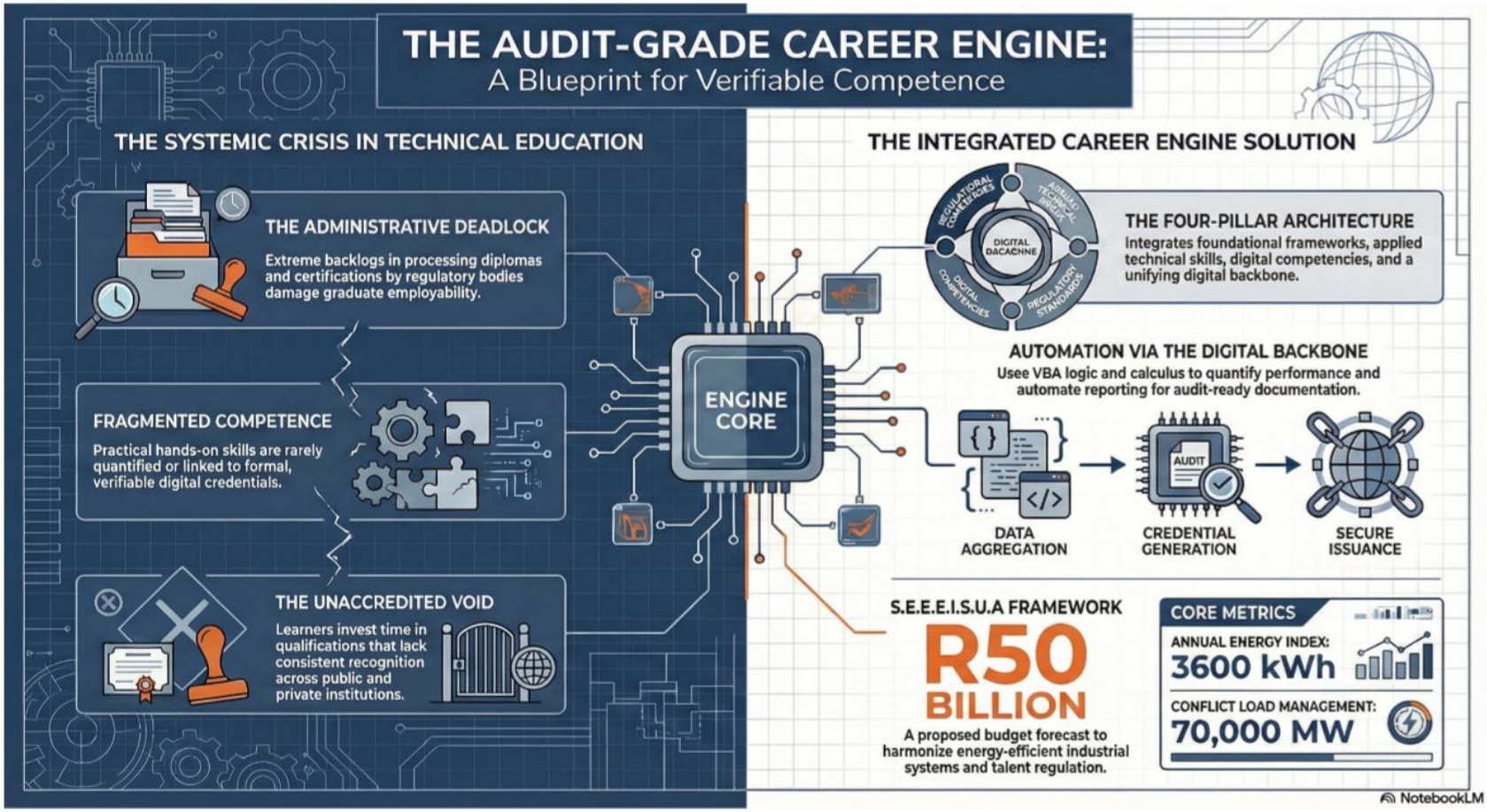
Engage the Expertise. Recognize the Innovation.

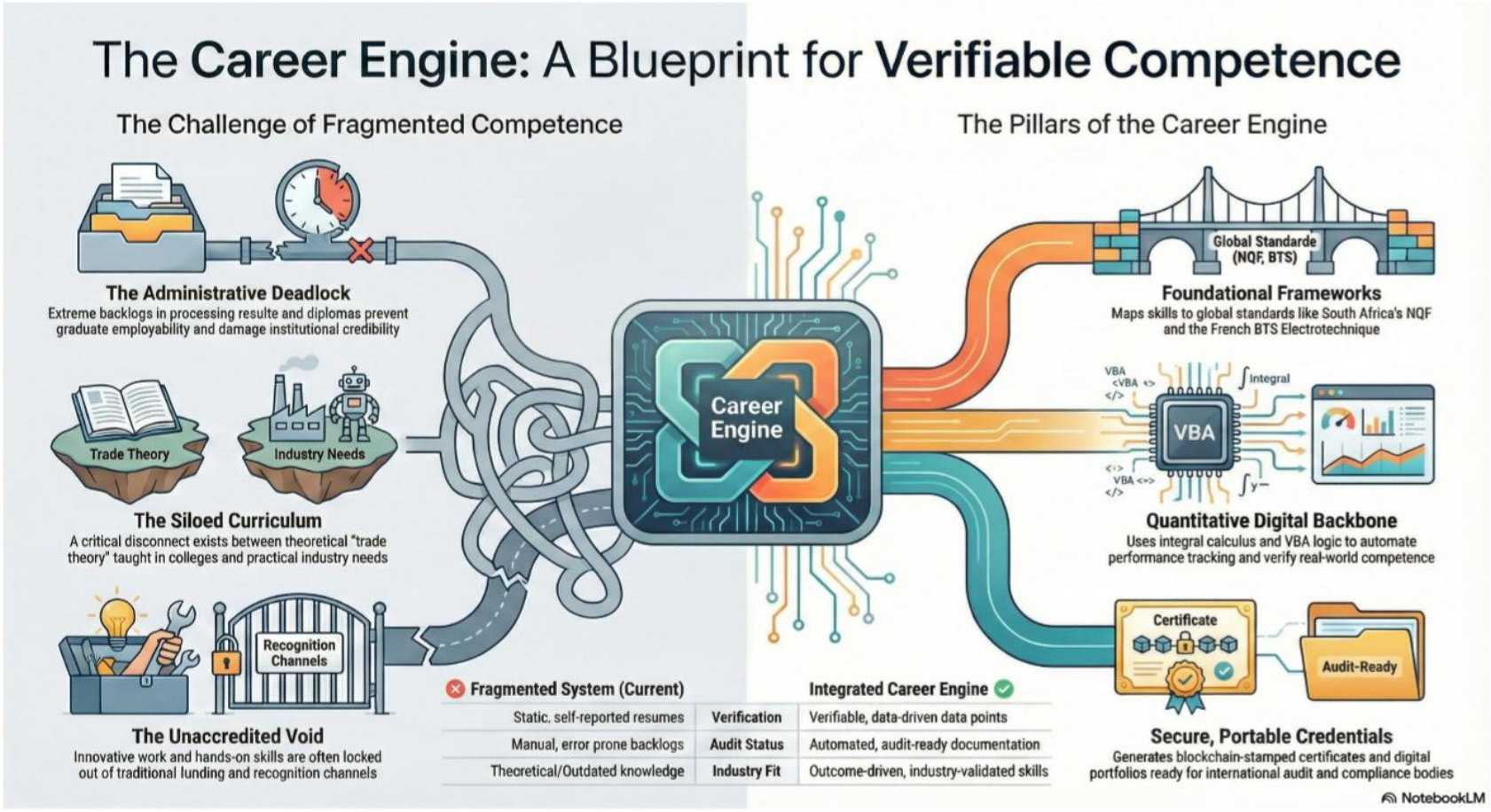
The evidence demonstrates a sustained, high-level output of technical work against significant systemic friction. The barriers of the pasthast have forged a unique, multi-disciplinary solution for the future.

Adopt the Audit-Grade Career Engine to ensure competence, transparency, and progress.

Tshingombe Tshitadi Fiston
Curriculum Architect & Technical Educator

NotebookLM


THE AUDIT-GRADE CAREER ENGINE:
A Blueprint for Verifiable Competence
THE SYSTEMIC CRISIS IN TECHNICAL EDUCATION
THE ADMINISTRATIVE DEADLOCK
Extreme backlogs in processing diplomas and certifications by regulatory bodies damage graduate employability.
FRAGMENTED COMPETENCE
Practical hands-on skills are rarely quantified or linked to formal, verifiable digital credentials.
THE UNACCREDITED VOID
Learners invest time in qualifications that lack consistent recognition across public and private institutions.
ENGINE CORE
THE INTEGRATED CAREER ENGINE SOLUTION
DIGITAL BACKBONE
REGULATORY STANDARDS
DIGITAL COMPETENCIES
THE FOUR-PILLAR ARCHITECTURE
Integrates foundational frameworks, applied technical skills, digital competencies, and a unifying digital backbone.
AUTOMATION VIA THE DIGITAL BACKBONE
Usee VBA logic and calculus to quantify performance and automate reporting for audit-ready documentation.
DATA AGGREGATION
AUDIT
CREDENTIAL GENERATION
SECURE ISSUANCE
S.E.E.E.I.S.U.A FRAMEWORK
R50 BILLION
A proposed budget forecast to harmonize energy-efficient industrial systems and talent regulation.
CORE METRICS
ANNUAL ENERGY INDEX:
3600 kWh
CONFLICT LOAD MANAGEMENT:
70,000 MW
NotebookLM


The Career Engine: A Blueprint for Verifiable Competence
The Challenge of Fragmented Competence
The Pillars of the Career Engine
The Administrative Deadlock
Extreme backlogs in processing resulte and diplomas prevent graduate employability and damage institutional credibility
Trade Theory
Industry Needs
The Siloed Curriculum
A critical disconnect exists between theoretical "trade theory" taught in colleges and practical industry needs
Recognition Channels
The Unaccredited Void
Innovative work and hands-on skills are often locked out of traditional lunding and recognition channels
Career Engine
Global Standarde (NQF, BTS)
Foundational Frameworks
Maps skills to global standards like South Africa's NQF and the French BTS Electrotechnique
VBA
integral
Quantitative Digital Backbone
Uses integral calculus and VBA logic to automate performance tracking and verify real-world competence
Certificate
Audit-Ready
Secure, Portable Credentials
Generates blockchain-stamped certificates and digital portfolios ready for international audit and compliance bodies
Fragmented System (Current)
Integrated Career Engine
Static. self-reported resumes
Verification
Verifiable, data-driven data points
Manual, error prone backlogs
Audit Status
Automated, audit-ready documentation
Theoretical/Outdated knowledge
Industry Fit
Outcome-driven, industry-validated skills
NotebookLM